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SCREENS OF DREAMS

We get 4K HDR thrills with Samsung QLED and LG OLED

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BenQ W2700

4K projector

B&W DB3D subwoofer

Yamaha RX-A1080

Dolby Atmos AVR

IOTA AVX1 processor

Amazon Echo

Link Amp

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KNOW ABOUT PROJECTORS

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Heroes or zeros?

The blockbuster comic book movies you forgot

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NEXT ISSUE ON SALE: June 13, 2019



Before he was Batman, Ben Affleck was Daredevil – see p22

Welcome

As I write, *Avengers: Endgame* still ranks behind the other three *Avengers* movies in box office takings. By the time you read this, however, it will surely have raced past them on its way to challenging *Avatar* as the biggest movie of all time.



Cinema is very much alive and kicking. Hollywood, facing competition from streaming TV platforms, has tweaked its model, jettisoning mid-budget flicks in favour of projects that either cost little, or cost a lot. And commercial cinemas have regrouped, realising that if effort is made on viewer comfort and the AV experience, audiences don't mind paying more for a ticket. Home cinema hardware is evolving too. This issue we look at LG's C9 OLED, which introduces HDMI 2.1 connectivity; sample the first of a new breed of DLP projectors in the shape of BenQ's W2700; and find Amazon aiming for the hi-fi market. In the technology world, nothing stands still. But who'd want it any other way?

Mark Craven
Editor



MENU



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John Archer:
The experienced TV tester cut his teeth as an early HCC staffer



Jon Thompson:
Film producer and post-production expert delves into Hollywood and AV



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HCC's former Ed. is one of the UK's most respected AV journo



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Former Editor of the UK CE trade journal ERT



Ed Selley:
Audiophile Ed mixes his home cinema passion with a love of vinyl



Steve Withers:
Movie fan, display calibrator and object-based audio obsessive

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BULLETIN

→ **News Highlights** **PIEGA** Swiss brand debuts 'Premium Wireless' speaker range **KLIPSCH** C-Series subwoofers bring smart control to movie bass **DISNEY+** House of Mouse confirms streaming service details **NEWS X10** The hottest news stories in bite-sized chunks **AT THE PLEX** This month's cinema releases **COLD PURSUIT** Neeson's back on 4K BD **& MORE!**

Taking it to the MAX

Pioneer VSX-LX504/VSX-LX304 → www.pioneer-audiovisual.eu



Pioneer has announced it will introduce IMAX Enhanced support, via a future firmware update, to a pair of AV receivers hitting shops this month – the £1,200 VSX-LX504 (pictured) and the less powerful £900 VSX-LX304. Both models are nine-channel designs with Dolby Atmos/DTS:X decoding; MCACC auto calibration; seven-in/two-out HDMI stages (with 4K passthrough); and wireless skills including Chromecast Built-in, Apple Airplay 2, Bluetooth and streaming service integration.

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Piega goes on active duty

Piega Premium Wireless → www.piega.ch/en



Premium Wireless, Piega's first wireless active speaker range, is a trio of models – the 501 and 701 floorstanders, and 301 standmount – and the wireless Piega Connect hub, which incorporates digital and analogue inputs, plus Bluetooth, for source connection. Taking design cues from the brand's passive Premium lineup, the three speakers all feature aluminium cabinets (in black, silver or white guise) and use ribbon tweeters. Pricing begins at £2,000 for a pair of 301s plus a Piega Connect.



Sony sets pricing on new OLEDs



The first wave of Sony's 2019 Bravia OLED TV range has arrived at UK retailers stores in the shape of the

55in and 65in AG8 models, with prices announced as £2,200 and £3,200 respectively. The Android-powered smart sets use Sony's X1 Extreme processor silicon and support Dolby Vision HDR. Also set to arrive (possibly by the time you read this) is the step-up AG9 series (55in, £3,000, 65in, £4,000), with a 77in iteration due to follow in June, price TBC. www.sony.co.uk

A&K has KANN CUBE attitude



Astell & Kern has unveiled its second-generation KANN portable hi-res audio player, dubbed the CUBE.

Set to hit retailers this June for an as-yet unconfirmed price (it will cost \$1,500 in the US...), this premium and oh-so-stylish pocket music machine/headphone amp supports 32-bit/384kHz PCM and DSD256 playback; packs a 'full' MQA decoder; and has a microSD card slot to expand its 128GB internal memory. Battery life is rated at nine hours, with fast charging via USB-C. www.astellnkern.com

Taking the pain out of AV

Panasonic UK MD Simon Grantham talks 8K and keeping faith in BD

Panasonic UK MD Simon Grantham feels your pain. 'If you go into a store to buy a new TV, and you haven't been in the market for seven years, it's a bit of a nightmare,' he concedes. 'We're probably not explaining enough what new tech, like HDR, does.'

One reason, then, why he's pleased to offer buyers a modicum of security. This year, both Panasonic's mid-range LED LCD and premium OLED models support Dolby Vision and HDR10+. Something, he points out, key TV rivals have yet to do.

For 2019, Panasonic has also expanded its OLED range, from the entry-level GZ950 to flagship GZ2000. 'I think it's going to be a good year for top-end TV, even without a World Cup. A lot of manufacturers are broadening their OLED options.'

8K delay makes sense

The company may have embraced forward-facing HDR, but it remains the only TV maker in the big four not to have played an 8K card. Grantham thinks it's still too early. 'We've shown 8K and talked about it,' he counters. 'But I think our view is pretty well known: there's no broadcastable 8K yet, we're hoping to see



Simon Grantham: 'There's no broadcastable 8K yet. In the meantime, 4K OLED is the best picture quality you can get'

that at the Tokyo 2020 Olympic Games. I think they're making sure that they can deliver broadcast-quality 8K first. In the meantime, 4K OLED is the best picture quality we think you can get.'

One home cinema area where Panasonic remains committed is physical media. Competing brands may have dropped the format – Samsung has bailed completely, LG isn't refreshing its range, and Microsoft is moving to a disc-less Xbox One S – but Panasonic seems steadfast.

The format has real appeal for the super-enthusiasts, insists Grantham. 'Particularly the top DP-UB9000 end of the market.'

It's also keeping faith with Technics, which is slowly moving from its high-end hi-fi and turntable roots into smart speakers and multiroom, with the launch of the Ottava SC-C50 wireless speaker.

'I think our considered approach to Technics has been a smart one,' confides Grantham. 'I think the SC-C50 looks great. It sounds great. It's in the right space in the market. I think that'll be a good product for us. I certainly hope so.'

However, he admits that the Technics relaunch has taken time to find its feet. 'I maybe would have liked to be more mass-market, move a little bit faster, but you need to re-establish your credentials in hi-fi before you can bring out slightly more affordable products. Personally,' he says, 'I love the brand.'

While the past few years haven't been kind to consumer electronics brands, Panasonic has weathered the storm, diversifying into smart building tech and grooming gadgets. 'I think the advantage that Panasonic has is we're a hundred years old. We stand for reliability, quality and good design. As long as we stick to that, I think we'll be fine.'



Panasonic OLED: Dolby Vision and HDR10+-capable

Playlist...

Team HCC spins up its disc picks of the month

Mary Poppins Returns (Ultra HD Blu-ray)

Not quite as good as the original, but Emily Blunt shines in the title role and this sequel's 4K HDR picture and Atmos sonics are nothing short of magical.



Game of Thrones: Season Eight (Sky Atlantic)



A spectacular farewell to a TV phenomenon that feels more cinematic than many movies.

Fantastic Beasts: The Crimes of Grindelwald (Ultra HD Blu-ray)



This sequel may have its problems, but a disappointing Ultra HD presentation isn't among them.

The Rage: Carrie 2 (Region B BD)



A pair of chat-tracks headline this handsome Blu-ray edition of Kat Shea's slick 1999 horror sequel.

Badlands (Region B BD)



The Criterion Collection's restoration of Terence Malick's masterpiece finally hits UK Blu.

At the 'plex...

Heading out to see a flick?
Catch these this month

John Wick: Chapter 3 – Parabellum

May 17: Picking up where the last instalment left off, this explosive action sequel sees Keanu Reeves' retired hitman on the run with a contract on his head. Meanwhile, Halle Berry and Mark Dacascos join the series' growing rank of killers.

Godzilla: King of the Monsters

May 29: The sequel to Hollywood's 2014 *Godzilla* reboot is shaping up to be one of the year's biggest blockbusters, with the massive monster going up against a trio of battling behemoths in the form of Rodan, Mothra and King Ghidorah.

X-Men: Dark Phoenix

June 05: Before the characters get rebooted as part of the MCU, the current incarnation of the X-Men makes a final bow with this second attempt at bringing the legendary 'Dark Phoenix' story to the screen.

HDR10+ goes Universal...

Another Hollywood heavyweight signs up to Samsung's HDR cause

Universal Pictures Home Entertainment [UPHE] has said it will begin mastering catalogue and new release titles with HDR10+. The company says the dynamic HDR standard will feature on both physical (Ultra HD Blu-ray) and digital content.

HDR10+ is described by its creator, Samsung, as an 'open-source-based next-generation video standard'. It's a rival to Dolby Vision, as both formats utilise a dynamic metadata approach (which sees a 4K HDR TV given metadata on a scene-by-scene basis), as opposed to the static metadata implementation of HDR10.

While HDR10+ was first announced at the IFA technology show in 2017, it's only recently begun to grab a foothold in home cinemas through Ultra HD Blu-rays. Recent Twentieth Century Fox Home Entertainment titles, including *Widows*, *Bad Times at the El Royale*, and *Alien* (reviewed on p90), come with HDR10+ encodes. Lionsgate has also joined the HDR10+ camp with *Robin Hood*, and the debut IMAX Enhanced discs (*Journey to the South Pacific* and *A Beautiful Planet*) also feature the next-gen standard.

Hardware support for HDR10+ currently includes 4K HDR TVs from Samsung, Panasonic and Philips, and 4K Blu-ray players from Panasonic, Oppo and Pioneer.

'State-of-the-art'

Announcing the adoption of HDR10+ with the format's

creator Samsung, Michael Bonner, Executive Vice President, Digital Distribution, UPHE said: 'We are delighted to team with Samsung Electronics on HDR10+ to deliver this striking, cutting-edge technology to entertainment consumers, providing them opportunity to enjoy unparalleled, state-of-the-art movie-watching experiences.'

This is undoubtedly good news for HDR10+ adopters, either by design or by accident, yet UPHE is yet to confirm any titles that are in line for HDR10+ releases. Movies on its 2019 slate (and therefore possibilities for HDR10+ 4K BDs) include Jordan Peele horror *Us*, blockbuster spin-off *Fast & Furious Presents: Hobbs & Shaw*, animated sequel *The Secret Life of Pets 2* and the Andrew Lloyd-Webber musical *Cats*.

Universal is also a supporter of Dolby Vision, and was the first studio to launch Dolby Vision Ultra HD discs with *Despicable Me* and *Despicable Me 2* in 2017. It has stated to *Forbes* that it will continue to release Dolby Vision content, but hasn't confirmed whether that means a multi-HDR approach with titles being offered with both Dolby Vision and HDR10+ (as Lionsgate has done with *Robin Hood*), alternating with different titles, or reserving Dolby Vision for streaming platforms.

Will *Us* and *The Secret Life of Pets 2* use HDR10+ on 4K BD?



Onkyo's Atmos in a box

New systems bundle speakers and amp for affordable AV thrills

Onkyo has launched a pair of Home Cinema Packages aimed at entry-level shoppers looking to move up from a soundbar or TV speakers.

The HT-S5915 and HT-S3910 support 5.1.2 and 3.1.2 Dolby Atmos/DTS:X playback respectively, and ship with sub/sat speaker systems.

The more affordable package (priced £500, available now) features the 5.1-channel HT-R398 receiver at its heart, which includes amplification for its bundled passive subwoofer.

The step-up HT-S5915 (price TBC,

available June) packs seven-channel amplification, and uses an active sub.

Both systems feature 4K HDR-capable HDMI switching (four inputs, one output) and Dolby Atmos Height Virtualizer and DTS Virtual:X post-processing.

Other goodies include Bluetooth, powered USB connection for HDMI dongles, and coaxial/optical digital audio inputs. The HT-S5915 also adds Onkyo's AccuEQ room calibration system.

'Both packages represent a stress-free path to immersive 3D sound,' says the brand. www.uk.onkyo.com



Onkyo's £500 HT-S3910 ships with speaker package and 5.1-channel AVR

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SVS has achieved its goal of delivering chest-thumping output and percussive bass extension, while retaining refinement and musicality - and done so from a small footprint and at a relatively affordable price. If you like deep and thunderous low-end combined with nimbleness and tonal accuracy, then the SB-3000 is sure to please.

”

Home Cinema Choice May 2019



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Discs spinning your way in the coming month...

May 20



At Eternity's Gate (DVD/BD)
Badlands [Criterion Collection] (BD)
Beautiful Boy (DVD/BD)
Glass (DVD/BD/4K)
Godzilla [1998] (4K)
Mary Queen of Scots (DVD/BD)
Mega Time Squad (BD)
No Kidding (DVD/BD)
The Quake (DVD)
Romance (BD)
Room at the Top (DVD/BD)

May 27

Bellman and True (BD)
Black Hawk Down (4K)
Blood on Satan's Claw (BD)
Destroyer (DVD/BD)
Maquia: When the Promised Flower Blooms (DVD/BD)
Mirai (DVD/BD)
No Orchids for Miss Blandish (BD)
Outlander: Season Four (DVD/BD)

June 03



24 Hour Party People (DVD/BD)
The Andromeda Strain (BD)
Batman vs Teenage Mutant Ninja Turtles (DVD/BD)
Can You Ever Forgive Me? (DVD)
Jack Ryan: Season One (DVD/BD)
The LEGO Movie 2: The Second Part (DVD/BD/3D/4K)
The Mule (DVD/BD/4K)
Stan & Ollie (DVD/BD)
Vice (DVD/BD)

June 10

Anaconda Quadrilogy (BD)
Dazed and Confused [Criterion Collection] (BD)
Escape Room (DVD/BD)
Green Book (DVD/BD)
How to Train Your Dragon: The Hidden World (DVD/BD/3D/4K)
Instant Family (DVD/BD)
A Private War (DVD/BD)
The Sender (BD)

Disney VOD gets creative

A powerhouse roster of franchises will make Disney+ hard to resist

The House of Mouse has amassed a formidable content armada for its Disney+ streaming service. Tapping into the combined might of *Star Wars*, Marvel, National Geographic and Pixar, it's a service TV fans will find difficult to resist.

Yet despite these A-list attractions, it may be pricing alone that persuades many to sign up. The new service has been pegged at just \$6.99 per month, or \$70 a year – considerably less than rival Netflix, which Stateside is \$9-\$13 per month.

'We're designing a product that we want to be as accessible to as many consumers as possible,' explained Disney chairman and CEO Bob Iger. 'We've got to be very serious and be all in on it. We believe that's the best way to succeed.'

Disney+ will make its American debut November 12, rolling out to Europe and Asia in 2020. Latin America will follow in 2021. Disney predicts 60 million to 90 million subscribers worldwide by 2024. Netflix currently has around 150 million subscribers.

Kevin Mayer, chairman of Disney's direct-to-consumer and international division, was blunt: 'We have the brands that matter.'

According to Futuresource Consulting, global consumer spending on streaming SVOD services hit \$29 billion in 2018, with improving broadband quality and increasing smart TV penetration driving growth.

Full technical specifications of Disney+ have not yet been revealed. 4K content will be available (and it's reasonable to expect that low monthly fee may scale upwards to include UHD services), but there's no news on preferred HDR flavour. While Dolby Atmos is likely on new material, this hasn't been confirmed either. Like Netflix and Amazon, subscribers will be able to download content for offline viewing.

A Marvel-lous idea?

Archive material will be part of the service's appeal (Iger says all of Disney's classic animated features will be available on a permanent basis, marking a shift from its policy of putting select classic titles



Bob Iger: 'We're designing a product that we want to be as accessible to as many customers as possible'

on moratorium), but Disney also says it will spend around \$1 billion on original content during 2020, increasing to \$2.5 billion annually by 2024. To put that in context, Netflix's budget for 2019 is \$15 billion.

Marvel Studios head Kevin Feige insists that Marvel's Disney+ shows will be equal to its movies in terms of quality and story. Marvel shows will be interwoven with the Marvel Cinematic Universe, and will 'significantly' impact the MCU, says Feige. The implication is also that their tone will be steadfastly PG-rated.

According to Agnes Chu, senior VP of content for Disney Plus, the service will launch with nine original series, growing to more than 25. It will also open with a slate of 10 original movies.

Eagerly anticipated is Jon Favreau's *Star Wars* show *The Mandalorian*. The series is set seven years after the Battle of Endor in *Return of the Jedi*, and stars Pedro Pascal in the title role.

There's also a *Rogue One* prequel, of sorts, centred around rebel spy Cassian Andor and robotic sidekick K-2SO, in the works, as well as a seventh season of the animated *Star Wars: Clone Wars*. There have even been rumours of an Obi-Wan Kenobi project, although this could just be wishful fan thinking.

Original Marvel TV shows planned include limited series for Loki, Hawkeye, Falcon and the Winter Soldier, and Scarlet Witch and Vision, with the original film actors reprising their roles.

These will be joined by an animated *Marvel's What If...?* series, featuring the voice talents of original MCU actors, plus two documentary series – *Marvel 616* and *Marvel's Hero Project*.

Disney+ will also be the first streaming service to show upcoming Disney blockbusters such as *Star Wars: The Rise of Skywalker*, *Toy Story 4*,

Frozen 2 and *Captain Marvel*.

Disney+ will not impact the window Disney operates with premium pay TV services.

And following Disney's acquisition of Fox, the service will become the exclusive streaming home of *The Simpsons*. Other original series include a reboot of *High School Musical* and a new Muppets show.

There's no news yet on how Disney will migrate subscribers from its current Disney Life streaming service to Disney+.

Star Wars content will be a major draw



This month's top 10 news stories in handy, bite-sized chunks...



1 Roll up! Roll up!

Swiss high-end audio brand Luzli has introduced a second-generation incarnation of its Roller headphones. Promising levels of craftsmanship 'more akin to luxury watches', and boasting that 'each model will last a lifetime', the Roller MK02 features 40mm custom dynamic drivers and headbands machined from pure aluminium and stainless steel. Naturally, such engineering doesn't come cheap – you can expect to part with £3,840 for a pair of Roller MK02 'phones.

2 Supersized 16K screen

Sony has developed a 16K screen that is longer than a bus! Measuring 19.2m x 5.4m and boasting 16 times the number of pixels as a 4K TV, the Crystal LED screen has been installed in a Yokohama research centre built by Japanese cosmetics group Shiseido.

3 Big slump for physical sales

The Motion Picture Association of America's (MPAA) latest annual report on the theatrical and home entertainment market claims there was a 48 per cent global decline in spending on physical media between 2014 and 2018 (down from \$25.2bn to \$13.1bn). The report also states that DVD accounts for 60 per cent of global physical media sales, with 4K Blu-ray making up just 5.3 per cent.

4 Microsoft ditches discs

Microsoft has launched a new disc-less version of its Xbox One console. The £200 Xbox One S All-Digital Edition can only play downloaded or streamed games and video content, therefore ditching the Ultra HD Blu-ray compatibility of its predecessors. The 1TB drive comes pre-loaded with *Minecraft*, *Forza Horizon 3* and *Sea of Thieves*.

5 Criterion's musical summer

The Criterion Collection has announced its July releases for the UK. The Fred Astaire and Ginger Rogers classic *Swing Time* kicks things off on July 8, followed by a very different kind of musical – *Hedwig and the Angry Inch* – on July 22. Sergei Bondarchuk's epic, Oscar-winning adaptation of *War and Peace* closes out the month on July 29.

6 Exhibiting Kubrick

The Design Museum, London, is marking the 20th anniversary of Stanley Kubrick's death with an exhibition celebrating the life and work of the visionary filmmaker through a series of rooms themed around his movies, containing around 700 letters, props and other goodies – including a model of *2001: A Space Odyssey*'s 'centrifuge set' and Private Joker's 'Born to Kill' helmet from *Full Metal Jacket*. Stanley Kubrick: The Exhibition is on until September 15, with tickets costing £16.

7 Dragons return on Blu-ray

Having made it into our roundup of the best action films of the past four decades in the last issue of *HCC*, we're delighted to report that a new 4K restoration of the 1988 Jackie Chan martial arts movie *Dragons Forever* will be coming to UK Blu-ray later this year, courtesy of 88 Films.

8 Dolby Cinema lands in Leeds

Last month saw the UK's second Dolby Cinema throw open its doors at ODEON Luxe Leeds Thorpe Park. The high-spec cinema, which features 263 recliner seats, combines Dolby Vision projection on a 19m wide screen with 'studio grade' Dolby Atmos audio.

9 Wondering what to watch?

Research from Ebuyer claims that users of streaming services in the UK spend an average of 23 minutes deciding what to watch whenever they log on. For those who use their streaming service every day, this works out at over three and a half hours (161 minutes) a week.

10 Unproduced *Alien* sequel becomes audio drama

Amazon-owned digital audiobook producer Audible is bringing cyberpunk pioneer William Gibson's unproduced *Alien III* script to life as an original audio drama to celebrate 40 years of the *Alien* franchise. Better yet, Michael Biehn and Lance Henriksen will be reprising the roles of Hicks and Bishop for the full-cast production. The new *Alien III* audio drama will be available on Audible from May 30.



Premiere...

What's happening in the world of TV and films...

Jump into action



MGM has hired Amy Jump to write the sequel to last year's *Tomb Raider* movie reboot. Reportedly championed for the job by Lara Croft herself (aka actress Alicia Vikander), Jump is married to director Ben Wheatley and scripted his films *Kill List*, *A Field in England*, *High-Rise* and *Free Fire*.

Wan some more King?

Hollywood's ongoing love affair with Stephen King shows no sign of abating. The latest project to be greenlit is a third screen adaptation of the author's 1975 vampire novel *Salem's Lot*, with *The Conjuring* helmer James Wan signed up to produce the film for New Line.

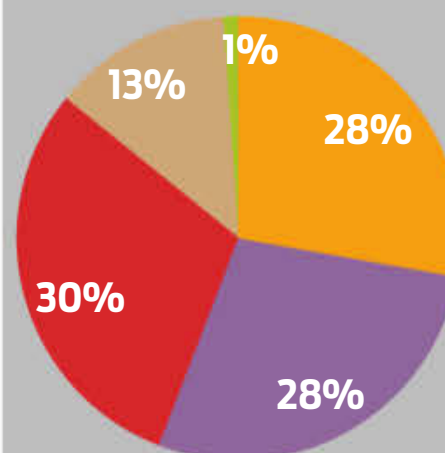
Wright time for *Death*

Actress Letitia Wright, who played Shuri in Marvel's *Black Panther*, has been cast as Rosalie Otterbourne in the latest cinema version of Agatha Christie's *Death on the Nile*. Starring and directed by Kenneth Branagh, the film is a follow-up to his *Murder on the Orient Express*.

We asked...

What is your main home cinema display technology?

■ OLED ■ LCD ■ Projector
■ Plasma ■ Other



Results from www.homecinemachoice.com
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Thrills and chills

Cold Pursuit → Studiocanal
→ DVD/Blu-ray/Ultra HD Blu-ray

Revenge is a dish best served cold in this darkly comic thriller about a snow plow driver (Liam Neeson) on the hunt for the gang responsible for his son's death. UK Blu-ray and Ultra HD Blu-ray releases are due to arrive on June 24, and we're hoping Studiocanal delivers the same deleted scenes, interviews and behind-the-scenes featurette included on Lionsgate's recent US disc. We'll also be out for revenge if the 4K platter doesn't match its US counterpart by offering Dolby Vision HDR and Dolby Atmos sonics.





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Face to Face

Topics of discussion on the *HCC* Facebook page

On still buying 3D Blu-rays...



If I can find them, yes.
Alan James Birdbear

Never did even when my TV and Blu-ray player were compatible.
Craig Hillier

A good 3D Blu-ray is better than the 2D version. Changed my projector for a 4K model but made sure it still does 3D.
Keith Sedgley

How I wish big studios like Marvel put their money on native 3D. Right now it's dying.
Stephen George

What you're watching on your home cinema...



Ex Machina 4K... and anything on Apple TV 4K!
Richard Farrer

G.O.T.
Brett Ketteringham

Kong: Skull Island, *John Wick 2* and *Game of Thrones*. And F1 racing.
Steve Smith

Definitely *Kiss Me Kate* in 3D. Possibly in a double-bill with *The Satanic Rites Of Dracula*.
John Hudson

Pet Shop Boys *Inner Sanctum* BD – a live performance at The Royal Opera House. After that we're continuing to work through *The Wire* boxset on Blu-ray, having not seen the series since the original dark and murky and very bad DVDs over a decade ago.
Ian Smith

Black Summer on Netflix.
Mike Short

Creed 2 and *Annihilation* 4K.
Mike Barham

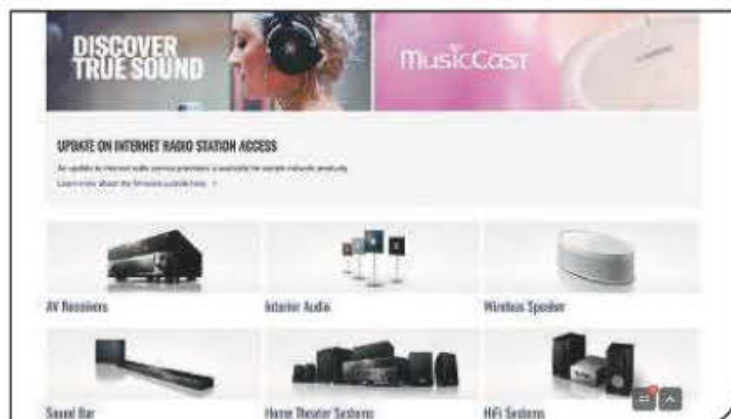
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Back of the 'net

Trailers, technology and more to check out on the web



Yamaha's eARC update

New firmware for Yamaha's 2017/2018 AV receiver/processor lineup has begun rolling out, and introduces eARC functionality to receive Atmos/DTS:X streams from an eARC source. Yamaha is also adding Apple AirPlay 2 and widening Spotify Connect to free Spotify accounts on MusicCast kit. uk.yamaha.com



The joke's on you

Joaquin Phoenix puts on the face paint for Warner Bros.'s upcoming *Joker*, written and directed by Todd Phillips and hitting cinemas in October. The film promises a new take on the DC supervillain, replacing pyrotechnics with character drama. This trailer certainly makes it look... different. youtu.be/t433PEQGErc



Fright night

The Pleasance Theatre, London has extended its run of *Night of the Living Dead Live*, an officially authorised stage adaptation of George A. Romero's legendary 1968 zombie flick, to June 8. Audience goers can choose to sit in 'Splatter Zones' or 'Supposedly Safe Zones'... www.LivingDeadLondon.com



Besson back to basics?

After sci-fi epic *Valerian and the City of a Thousand Planets* wobbled at the box office, Luc Besson is retreating to more solid ground with *Anna*, an action thriller set in his native France that – from this trailer – appears to owe a debt to both his own 2014 movie *Lucy* and *Atomic Blonde*. In cinemas in July. youtu.be/Ms5F2s_zEI0



TOP PICK

Every generation has a legend

It's not due in cinemas until December, but that hasn't stopped Disney releasing a teaser trailer for *Star Wars: Episode IX – The Rise of Skywalker*. If you haven't already watched it, be warned that while it gives little away regarding the film's plot, some might consider it a bit spoilery. youtu.be/CoGwf-vOEYM



In perfect Harmony

Bang & Olufsen has taken a 77in LG C9 OLED panel and implemented its own design and engineering flair to create its new Beovision Harmony TV – complete with unfurling speaker system. Head to p18 for more, and watch it in action via the YouTube video below. youtu.be/16ZYt3MC4OE

Now you C me

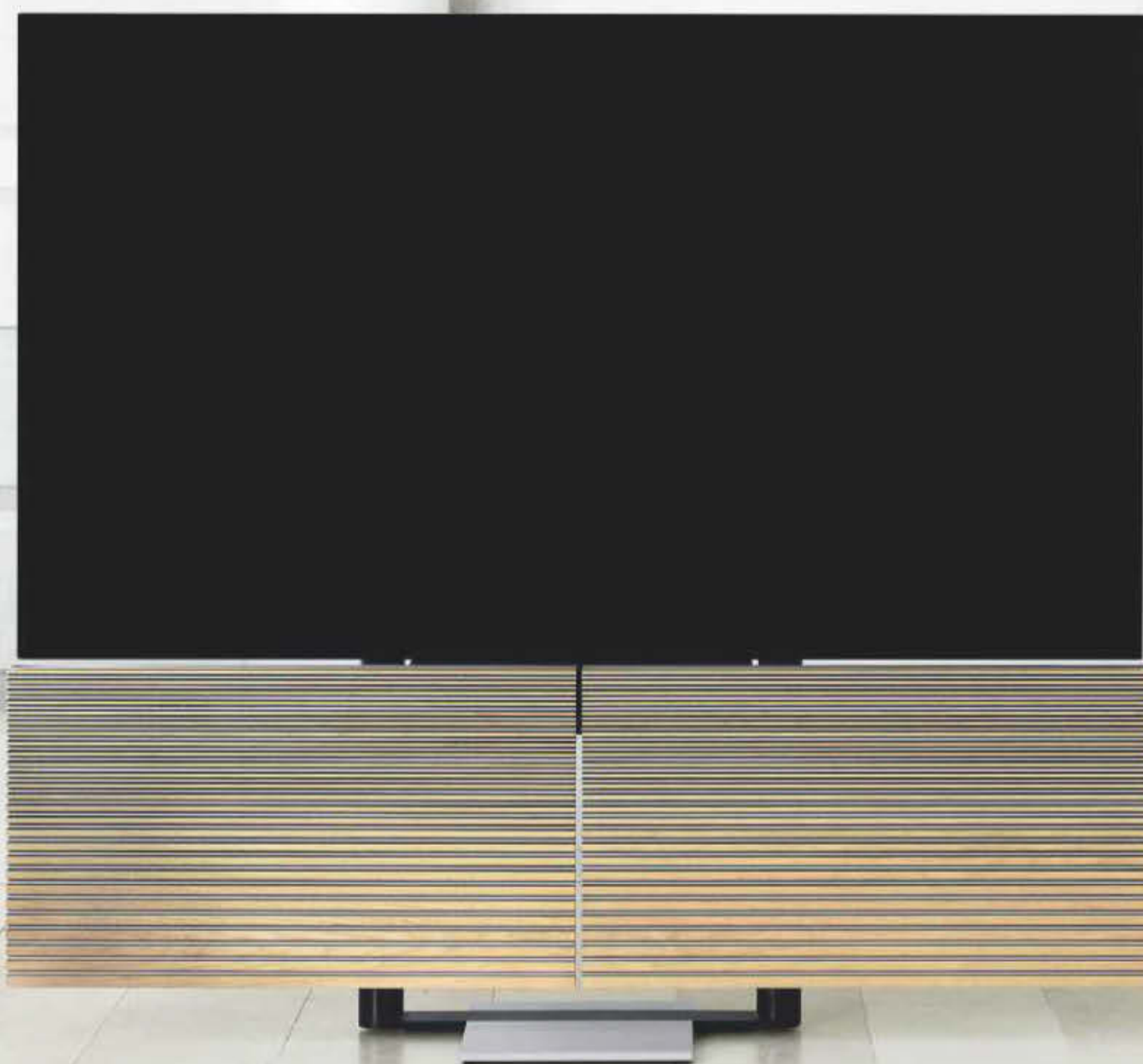
Klipsch C-Series → henleyaudio.co.uk

Aiming to be 'install-friendly', Klipsch's C-Series subwoofer lineup features two models (8in and 10in), both using front-firing Cerametallic active drivers bolstered by side-firing passive radiators in compact cabinets. Aiding setup is the company's LowControl app for smart device operation and automatic room correction, XLR and high-level connections, and support for Klipsch's WA-3 wireless transmitter. Pricing is £1,250 for the 8in C-308ASWi, and £1,500 for the bigger C-310ASWi.



OLED poetry in motion

Bang & Olufsen has cooked up a premium OLED TV with a (literal) twist. **Steve May** reports on this, and more, from Milan Design Week



Turn the Harmony off (right) and the panel descends to hide behind its folded up speaker array



A PERFECT BLEND of AV and innovative industrial design, the Bang & Olufsen Beovision Harmony is an OLED TV unlike any other. By any measure a 77in panel is a difficult beast to accommodate, but the Danish design diva has come up with a solution.

In repose, the Harmony hides most of its bulk behind a wood and aluminium frontage (in actuality the set's sound system). Turned on, this splits in two and fans out, the 4K OLED panel behind rising to full viewing height. When the TV is switched off, the screen sinks to the floor and the speakers fold back into position.

B&O likens the design to a butterfly unfurling its wings, but it's more deliciously H. R. Giger than that; the hydraulics behind lift the screen with ominous purpose.

It was perhaps fitting that Bang & Olufsen used Milan's celebrated Design festival to unveil this new flagship. Amid a profusion of avant-garde, high-tech and classically traditional products, the giant set seemed both at home, yet also startlingly different.

Torsten Valeur, of Valeur Designs, claims responsibility for the concept. He told *HCC* he was inspired by his time working at an amusement park in Copenhagen.

'There was an old theatre there, the Pantomime theatre, which featured a big mechanical peacock whose tail opened and closed,' he recalls. 'I always found that exciting.'

The initial concept work was done some five years ago, back when a large screen was thought to be 55in. 'But we needed OLED technology for it to work,' he says. 'A thin sheet of glass...'

Roll up or fan out?

In some ways, the Harmony is Bang & Olufsen's answer to the LG rollable OLED proposition (the OLEDR9) feted at CES. Both seek to minimise the imposition of our ever larger displays. LG has taken a prosaic approach, literally hiding the panel in a box that doubles as the associated sound system. Bang & Olufsen, however, has opted to make the screen reveal a theatrical performance.

The Harmony's sound control centre is three-channel, and it's not short of dynamic attack, with each driver getting its own claimed 150W amplifier. But, as the set has a 7.1 surround sound decoder, it can also be partnered with exterior B&O Beolab speakers for a full-blown home cinema experience. In total, the system can drive 16 speakers, eight wireless and eight wired.

HCC was invited to experience the Harmony in full flight, and can confirm this sound system is most definitely a cut above even higher-end rival panels. While it can be partnered with a subwoofer, it really doesn't need to be. A play-through of *The Greatest Showman* revealed a huge soundstage with a deep, effective mid-bass.

While the sound implementation is all Bang & Olufsen, the panel itself is an LG C9, and as such features a stock WebOS smart platform, here in version 4.5. Naturally all the required streaming services – Netflix, Amazon Prime Video and YouTube – will be onboard.

The Harmony goes on sale in October, for around £16,000. Pricey, but you also get a remote crafted from a single piece of extruded aluminium...



Designer Torsten Valeur says the concept for the Beovision Harmony TV originated five years ago

Sonos, Sony and Samsung bring tech to the home of fashion

Multiroom speakers to add to your meatballs... and robotic balls to play with



Sonos unpacks new speaker

Milan Design Week, which incorporates Salone del Mobile and Fuorisalone, has evolved into a global focal point for high-design and concepts – and increasingly it's providing tech brands with a new outlet for their more visionary products.

At the show, multiroom master Sonos partnered with flatpack furniture king IKEA to reveal a new line of Sonos-compatible wireless speakers to be sold through IKEA stores under the Symfonisk brand – a smart move given the huge global distribution IKEA has.

There are two models – a combination wireless speaker and table lamp (€180), and a slim

bookshelf model (€100). The latter can be mounted vertically or horizontally, in shelf mode, where it can carry up to 3kg.

Neither has an integrated microphone, but they can be used in conjunction with an Amazon Alexa product. Google Assistant support is also incoming. We had an early listen, and were impressed at just how full-bodied they sound. The bookshelf model is particularly versatile (IKEA demonstrated it everywhere from a kitchen to a bedroom), while the table lamp has an effectively punchy bass performance.

Both are available in white or black, can be controlled via the Sonos app, and work with other Sonos multiroom speakers.

Barking mad?

Sony used Milan to showcase its robots division, with an exhibit entitled 'Affinity in Autonomy.' Here, robotic pooch Aibo was augmented with a projected video display that revealed its inner mood and general demeanour. Sony also demonstrated its sensor prowess with autonomous robot spheres. Looking like they had hightailed it from *The Prisoner* village in Portmeirion, the balls



react to a human presence, rolling toward you and vibrating with contentment when stroked, and rolling away if alarmed by sudden movement.

Tactile interaction was also a theme at the Wallpaper* Handmade X exhibition, where Bang & Olufsen presented a new speaker concept produced in collaboration with designer Germans Ermics – a circular sound system that plays music and adjusts volume according to how it's stroked.

Perhaps the most conceptual demo came from Samsung. Its AR Resonance installation invited visitors to create art by breathing, talking and moving. *HCC* huffed, puffed and shuffled its way around, leaving none the wiser.

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Comic book adaptations are Hollywood's biggest business, but not all are successful – for every *Avengers: Endgame* breaking box office records, there's a *Howard The Duck* (see p99) being roasted by critics. And who remembers Billy Zane as The Phantom?

The comic book movies that **you** forgot*

JONAH HEX

DC's Wild West anti-hero was never likely to deliver a family-friendly smash hit, but surely stars Josh Brolin, Megan Fox and John Malkovich, and studio Warner Bros, hoped it might lead to a money-spinning movie that made sense. Unfortunately, they got neither – *Jonah Hex* sank at the US box office and was dumped on disc everywhere else, with audiences turned off by its short running time (81 minutes) and slap-dash plotting.

Available on Blu-ray? Yes, but we'd still not recommend buying it...



Brolin (below) would return to comic book movies in the Marvel series (as Thanos) and *Deadpool 2*





CAPTAIN AMERICA [1990]

Marvel's *Captain America: The First Avenger* isn't the character's only cinematic origin story – Matt Salinger flung his shield at a rubber-faced Red Skull in this low-budget version nearly 30 years ago. Originally set up at Cannon Films with Michael Winner(!) attached to direct, by the time it went before cameras Cannon had gone belly up and *Cyborg* helmer Albert Pyun was behind the camera.

Available on Blu-ray?

Shout Factory! released a Region A-locked US Blu-ray in 2013 that includes newly recorded interviews with Pyun and Salinger.



DR. STRANGE [1978]

Spurred on by the success of its *The Incredible Hulk* and *Spider-Man* TV shows, CBS went shopping for another Marvel hero who could star in his own series. Presumably due to the need for one with powers that could be realised on a TV budget, it settled on Doctor Strange and conjured up this pilot movie. Sadly, it proved a ratings disaster and no series followed. Today *Dr. Strange* is best enjoyed for its camp value, weird effects and the sight of a baffled John Mills playing Strange's magical mentor.

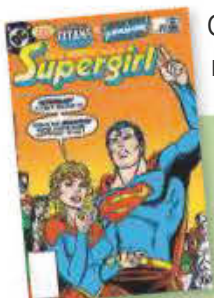
Available on Blu-ray?

Nope – although Universal Pictures put out a barebones UK DVD in 2017.

SUPERGIRL

Not the recent TV series, but a 1984 movie that acted as a spin-off from Christopher Reeve's *Superman* franchise – before the idea of spin-offs had really taken hold. Helen Slater (who's since gone on to appear in *Smallville* and the *Supergirl* TV show) takes on cape-wearing duties as Kara Zor-El/Supergirl, alongside a cast including Faye Dunaway as the malevolent witch baddie Selena, and Marc McClure reprising his role of *Daily Planet* snapper Jimmy Olsen. The story is a curious mix of occult curses and more typical super-powered acts of derring-do, with VFX work ranging from impressive to almost laughably bad.

Available on Blu-ray? You can import from the US in a double-disc pack that includes the International Cut in HD and Director's Cut in SD – but not the shorter US theatrical version.



MYSTERY MEN

Slipping into cinemas between the supposed death of comic book movies (*Batman and Robin*, 1997) and their rebirth (*X-Men*, 2000) was this good-natured 1999 comedy with an ensemble cast (Ben Stiller, Geoffrey Rush, William H. Macy *et al*).

Having made their debut in issue 16 of writer-artist Bob Burden's underground 1980s superhero satire *Flaming Carrot Comics* (in the story *I Cloned Hitler's Feet!*), the main premise of *Mystery Men* is that its heroes aren't so super, which naturally leads to a narrative that's packed with gags, but falls somewhat short on the cinematic spectacle genre fans have grown accustomed to.

Available on Blu-ray? Universal Pictures has never bothered to unleash the *Mystery Men* in hi-def on these shores, but you can import a Blu-ray from the US, Germany or Australia.



DAREDEVIL

Ben Affleck is better known as Batman these days, but turn back the clock to 2003 and he was leaping from

building to building as a different costumed crime-fighter. Taking its cues from writer Frank Miller's acclaimed early '80s run on the Marvel comic, director Mark Steven Johnson's enjoyable – if overstuffed – actioner has Affleck's blind superhero getting involved with the mysterious Elektra (Jennifer Garner), while also dealing with crime lord The Kingpin (Michael Clarke Duncan) and the deadly Bullseye (Colin Farrell).

Available on Blu-ray? Fox released the superior Director's Cut on a loaded Blu-ray back in 2008. The subsequent *Elektra* spin-off is also available on BD.

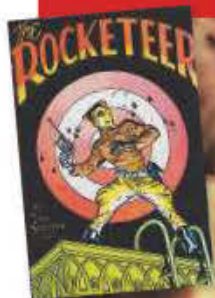


THE SHADOW

Originating as the narrator of a popular radio show in the early 1930s, The Shadow quickly made the leap into other media including pulp magazines, his own radio drama (starring a young Orson Welles) and, of course, comic books.

Having had a huge influence on the development of Batman, it seems only right the success of the Dark Knight's 1989 movie helped The Shadow get a shot at bigscreen fame. The stylish and fun film that followed (directed by Russell Mulcahy and starring Alec Baldwin, Penelope Ann Miller and Tim Curry) failed to find an appreciative audience at cinemas – although it has since garnered a cult following on home video formats.

Available on Blu-ray? Medium Rare's UK Blu-ray and Shout Factory!'s US platter are identical. Koch Media's German BD adds some exclusive extras. ➤



THE ROCKETEER

Inspired by classic movie serials like *King of the Rocket Men*, Dave Stevens' lushly drawn 1930s-set comic book *The Rocketeer* delivers a winning mix of intrigue and adventure, with a side order of cheesecake pinups, as down-on-his-luck pilot Cliff Secord chances upon a prototype rocket pack and reinvents himself as a jet-powered superhero.

Produced by Walt Disney Studios, *The Rocketeer* flew into cinemas in 1991. Directed by former special effects whizz Joe Johnson (who would go on to helm

Captain America: The First Avenger), this infectiously entertaining and visually impressive period adventure features Bill Campbell as Cliff, Jennifer Connelly as his girlfriend Jenny and Timothy Dalton as the Errol Flynn-like actor who is really a dastardly Nazi spy...

Available on Blu-ray? Presumably due to the film's poor box office, Disney dumped *The Rocketeer* on Blu-ray with no extras, just as it had done with the DVD earlier. Even the LaserDisc only has a trailer. It deserves so much better.



THE PHANTOM

Although adapted from a long-running newspaper comic strip that predates the creation of both Batman and Superman, it wasn't until 1996 that 'The Ghost Who Walks' hit cinemas in this high-budget but underperforming Summer flick directed by Simon Wincer (whose career was damaged to the extent that his next project was *Crocodile Dundee in Los Angeles* in 2001). Now known as a box office flop, *The Phantom* still has plenty going for it – Wincer

and writer Jeffrey Boam work had to evoke a 1930s comic/pulp aesthetic, Billy Zane is a good choice for the title character, and it zips along at pace.

Available on Blu-ray? Another film that bypassed a UK hi-def release but saw the light of Blu in the US (via Lionsgate).



SPEED RACER

The Wachowski siblings' directorial follow-up to their *Matrix* Trilogy was hotly anticipated, and arrived in 2008 in the form of this live-action version of a 1960s Japanese manga. Well, we say 'live-action' – *Speed Racer* is frequently a CG showcase, a film that has no qualms about showering you in digital trickery as its directors aim for a deliberately colour-rich, futuristic and cartoonish world. A case of style over substance? Possibly – it's certainly something of an acquired taste, and less immediately accessible than *The Matrix*, despite targeting a more junior demographic.

Available on Blu-ray? Warner Bros. gave *Speed Racer* a 2008 hi-def outing, which you should still be able to track down. More recently, the original Japanese 'toon appeared on a US boxset.



NICK FURY: AGENT OF S.H.I.E.L.D (1998)

A decade before Samuel L. Jackson donned the eye-patch and signed up to a nine-picture deal with Marvel, S.H.I.E.L.D boss Nick Fury was played by David Hasselhoff – back when Hasselhoff still had a career that wasn't solely based around self-referential cameos – in a Fox TV movie written by *Blade*/*Batman Begins*/*Man of Steel* screenwriter David S. Goyer. Low on budget and gravitas, but at least it's faithful to the source material – HYDRA and Baron von Strucker all feature.

Available on Blu-ray? Not in the UK – and the DVD is an eye-watering £16.



JUSTICE LEAGUE OF AMERICA

If you thought 2017's *Justice League* was as bad as things could get for DC's premier superhero team then you've clearly never seen this dismal 1997 TV movie developed by CBS as a backdoor pilot for a series that never happened. Cheap and tacky, with a terrible script and fancy dress shop costumes, it's easiest to pretend the whole thing never happened.

Available on Blu-ray?

Unsurprisingly, this TV movie has never had an official BD (or even DVD) release. It has, however, popped up on TV in various countries, including frequent reruns on Channel 5 here in the UK.

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SPAWN

Based on the top-selling comic of the '90s (whaddya mean you've never heard of it?) *Spawn* stars Michael Jai White as a special forces agent who is betrayed by his boss (Martin Sheen), set on fire, blown up, goes to Hell, meets a devil, and is returned to earth as a soldier for the forces of darkness – only to choose to use his demonic powers for good instead. Elsewhere, John Leguizamo dons a fat suit to play a farting demon clown, and there is so much terrible late-'90s CGI that you'll want to tear your eyes out...

Available on Blu-ray? The 'Director's Cut' is available on a stacked HD platter.



PRINCE VALIANT (1997)

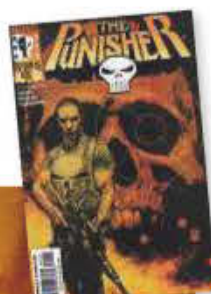
Reportedly described by The Duke of Windsor as the 'greatest contribution to English literature in the past hundred years', Hal Foster's epic Arthurian comic strip made a second journey to cinemas in 1997, with a pre-*True Blood* Stephen Moyer as the inexperienced squire venturing out to rescue a princess (Katherine Heigl) and recover Excalibur. Add to that Edward Fox as King Arthur and Joanna Lumley as Morgan Le Fay and you have an amiable slice of Sunday afternoon cinema.

Available on Blu-ray? Nope. But there's a Danish DVD if you really have to own it.

THE PUNISHER (2004)/ PUNISHER: WAR ZONE

Whenever people bring up screen versions of Marvel Comics' gun-toting anti-hero The Punisher, it tends to be either the 1989 movie starring Dolph Lundgren or the more recent Netflix show. These two bigscreen adaptations from 2004 and 2008 – the first starring Thomas Jane, the second Ray Stevenson (pictured) – don't seem to get much of a look-in. Which is odd, as they're actually very entertaining, especially director Lexi Alexander's *Punisher: War Zone*, whose cartoonishly over-the-top violence and garish neon-soaked style make it feel like the 'mature readers' *Punisher* MAX comic series come to life.

Available on Blu-ray? You can either pick up a Blu-ray double-pack here in the UK, or import them individually on 4K Blu-ray from the US.



R.I.P.D.

The *Rest in Peace Department* comic got a cinematic makeover in 2013, backed up by A-listers Jeff Bridges and Ryan Reynolds as two ghostly detectives in the titular unit, tasked with capturing other deceased beings hanging around in disguise on Earth rather than moving on to the afterlife. Think *Men in Black* with spooks and you get the idea.

Perhaps the premise felt too derivative, as despite Reynolds' star power and a budget in excess of \$130m delivering plenty of popcorn spectacle, audiences largely stayed away. Or perhaps word of mouth spread quickly that *R.I.P.D.* was – to put it kindly – a messy, uninvolved and nonsensical production that should have been left dead and buried.

Available on Blu-ray? Yes, including in 3D guise.



HULK

Ever since Marvel's not-so-jolly green giant was absorbed into the MCU, it's become easy to forget this 2003 blockbuster from acclaimed director Ang Lee (fresh off the success of *Crouching Tiger, Hidden Dragon* at the time).

The incredibly idiosyncratic *Hulk* is like no other major Hollywood blockbuster around. Where else will you find a superhero film that shows its muscle-bound protagonist battling with Gamma-irradiated monster dogs and dealing with major daddy issues, all held together by an audacious visual style based on comic book panel layouts?

Equal parts fascinating and frustrating, Ang Lee's *Hulk* is a one-of-a-kind superhero flick.

Available on Blu-ray? Yes – and a 4K disc is rumoured for release this Summer.



THE LEAGUE OF EXTRAORDINARY GENTLEMEN

Writer Alan Moore and artist Kevin O'Neill's *The League of Extraordinary Gentlemen* is one of the most acclaimed comic books of the millennium. Similar praise did not greet this 2003 bigscreen version.

This chaotic flick keeps the same basic setup of bringing together various Victorian-era literary characters – including Allan Quatermain, Captain Nemo and Dr. Jekyll – to fight evil, but throws pretty much everything else out. The result is an especially dumb and unexpectedly bland actioner that is mainly notable for pretty much ending the careers of both director Steven Norrington and leading man Sean Connery.

Available on Blu-ray? The UK BD originally put out by Fox in 2006 was reissued by Fabulous Films late last year.



GREEN LANTERN

Another entry for Ryan Reynolds, this time headlining Warner Bros.' 2011 box office calamity that led to the studio rethinking its approach to DC comics titles and kickstarted the DC Extended Universe. Reynolds offers his usual charisma, but this jokey misfire wasn't the movie *Green Lantern* fans were hoping for.

DC's ring-bearing superheroes are set to return in a new movie (*sans* Reynolds), and eagle-eyed viewers will have spotted one making a fleeting appearance in Warner Bros.' *Justice League* movie in 2017.

Available on Blu-ray? The 3D Blu-ray bundles its stereoscopic version of the theatrical cut with a 2D platter containing the theatrical and 'Extended' cuts, plus heaps of extras.



BARB WIRE

Following its well-received *The Mask* and *Timecop* titles, in 1996 Dark Horse Entertainment dug out another little-known comic book for cinematic reimagining. Set during a Second American Civil War, *Barb Wire* finds Pamela Anderson playing the titular badass bar owner/bounty hunter who gets caught up in a story reminiscent of *Casablanca* – only with a star whose two main talents spend most of the film fighting to break free from the tight leather outfits she has been squeezed into. This doesn't mean *Barb Wire* isn't fun. It looks good, the action is well-handled and the likes of Udo Kier and Xander Berkeley go a long way towards making up for Anderson's rather limited performance.

Available on Blu-ray? Yes. Turbine's 2018 German Blu-ray is the best of the bunch, offering the uncut film and a reel of 'Sexy Outtakes'...



THE SPIRIT

Comic book writer-turned-film director Frank Miller was a hot property after the 2005 adaptation of his *Sin City* graphic novel (and *300* in 2006), and for this take on a 1940s comic strip he put together a glitzy cast including Samuel L. Jackson, Eva Mendes and Scarlett Johansson. The expectation was of a movie to rival *Sin City*, but while *The Spirit* certainly shares a similar visual feel (courtesy of copious green screen backgrounds), it pales in comparison to that earlier flick, lacking the wit, drive and sense of menace bought by director Robert Rodriguez. Jackson is fun as the mad scientist villain, though.

Available on Blu-ray? Given a 2009 hi-def debut by Lionsgate, with extras including a Miller commentary track.



FROM HELL

A killer is on the loose in Victorian East London, and it's up to Inspector Frederick Abberline (Johnny Depp in cockney mode) to catch him in this accomplished 2001 Jack the Ripper yarn based on Alan Moore's graphic novel of the same name, itself a cultivation of Ripper theories dating back decades.

To that extent it's a story many will have seen before (remember the Michael Caine 1988 TV series?) but never imbued with such cinematic verve. American directors Albert and Allen Hughes seem right at home in their Whitechapel recreation, layering on evocative locations shot with a painterly eye. We wonder what a 4K HDR version would look like.

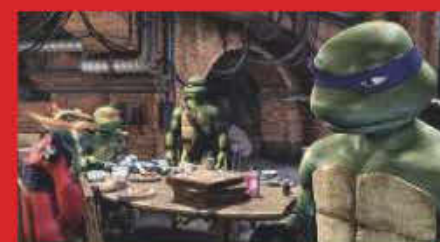
Available on Blu-ray? Released in 2007 by Fox, and again last year in a Zavvi-exclusive Steelbook with natty cover art.



Get animated

From page to screen without an actor in sight

TMNT



With its spot-on characterisation and superb action, this 2007 CGI animation remains the very best bigscreen take on Kevin Eastman and Peter Laird's kung-fu fighting, pizza-loving anthropomorphised turtles. Cowabunga!

Available on Blu-ray? The HD platter Warner Bros. released the same year has a lively Dolby TrueHD 5.1 mix and decent extras.

Batman: Mask of the Phantasm/Batman & Mr. Freeze: Sub-Zero



For many Batman fans, the '90s animated series is the definitive screen version of the Dark Knight, and these two spin-off movies are as good as you would expect.

Available on Blu-ray? After separate BD releases in the US, both films were included in last year's *Batman: The Complete Animated Series* Blu-ray boxset.

Hellboy: Sword of Storms/Hellboy: Blood and Iron



Released in the gap between Guillermo del Toro's two *Hellboy* films, this enjoyable pair of DTV movies is enlivened by having Ron Perlman, Selma Blair and Doug Jones return to provide the voices for their characters.

Available on Blu-ray? Not in the UK – but Lionsgate recently released them on 4K BD in the US.

Projectors:

WHAT YOU NEED TO KNOW



For the ultimate in home cinema, you can't beat the largescreen, vision-filling experience made possible by a projector, but the technology comes with many questions. What is keystone correction? Laser, lamp or LED? Short or long-throw? **John Archer** is your guide

PROJECTION TECHNOLOGIES

There are three different types of core projection technology you'll come across when shopping for a new model – DLP, LCD and LCoS. In truth, your budget and other factors will likely lead you toward one technology – rather than the technology itself – but it's useful to know the difference.

DLP uses a system of rapidly adjusting mirrors on the back of a control chip to deliver its images. Colour is created by either three separate chips (one each for the red, green and blue image elements), or, more typically, from a fast-spinning colour wheel.

The mirror approach means DLP PJs are good at delivering very large images without a visible image structure. They also tend to fare well with contrast and colour punch, and use a dust-free sealed optics system. And as most DLP PJs employ one chip (three-chip designs are rare and expensive), they are usually more affordable than LCD and LCoS models – with plenty available for under £1,000.

Single-chip DLP projectors can suffer with 'rainbow effect', a visual artefact that sees fleeting stripes of red, green and blue over high-contrast image parts. The extent of this varies depending on the structure and speed of the colour wheel, and the level to which individual viewers are aware of it also varies. Demo any model you're thinking of buying.

Although generally affordable, LCD projectors are quite complicated in the way they work. Light from a

lamp is passed through a polarizing filter, then through a series of dichroic mirrors that only reflect certain colours in the light spectrum – in this case, red, green and blue. These separated colours are then fed into dedicated red, green and blue LCD panels (3LCD technology), before being reassembled into the final picture via a dichroic prism.

LCD projectors are strong at creating bright, accurate, smoothly blended colours, and are free from DLP's rainbow effect. They tend to fall short with pure contrast and black level reproduction vs DLP, however, and can suffer with visible pixel structure – known as the screen door effect – on large screens. When it comes to availability, 3LCD originator Epson is the brand you're most likely to consider; other companies use the platform, but mostly in business/data-friendly models.

LCoS projectors are best thought of as a mixture of LCD and DLP. As with LCD designs, they use separate red, green and blue panels. Yet here, a liquid crystal layer of pixels is placed onto a reflective mirror which, as with DLP's 'digital mirror device', is controlled by electronics underneath it. The aim is to deliver the best of both worlds: the rich, bright colours of LCD and the smooth 'finish' and potential contrast benefits of DLP. Projectors that use LCoS tend to be very good at reproducing fine detail, too.

So what's the catch? LCoS technology is relatively expensive. Sony's SXR and JVC's D-ILA LCoS spin-offs mostly retail above the £2,000 mark.



Texas Instruments' DLP chips are used by a variety of projector brands

RESOLUTION

Unlike TVs, the resolution situation with projectors is... complicated. All manner of different native resolutions are out there, as well as a slightly bewildering set of 'pseudo' variations.

The most obvious division is between HD and 4K projectors. Full HD projectors carry native pixel counts of 1,920 x 1,080, matching the resolution of most HD video (including Blu-ray) and, increasingly, console game images.

You can also get (usually cheaper) HD Ready projectors that typically carry 1,280 x 720 pixels. These produce a higher resolution than old standard-def PJs, but have to downscale HD sources rather than delivering pixel-for-pixel accuracy.

Other resolution variations reproduce 16:10 aspect ratios – often 1,280 x 800 – designed primarily for PC/presentations use rather than video sources.

True 4K projectors delivering 3,840 x 2,160 or 4,096 x 2,160 pixel counts are rare – and high-price. Sony's SXR4 4K range does it (current models being the VPL-VW270ES, VPL-VW570ES, and VPL-VW870ES), as do very high-end projectors from SIM2 (the Nero 4 and 4S models, and the Crystal4). JVC's D-ILA lineup has also been upgraded to native 4K this year in the shape of its DLA-N5, DLA-N7 and DLA-NX9, following the introduction of a single 4K model, the DLA-Z1, in 2017.

Muddying the waters are projection techniques designed to replicate a 4K experience without the full pixel count. Older JVC 4K projectors used e-Shift technology to create a pseudo 4K effect, by putting two HD panels in sequence, offset diagonally from each other by half a pixel and giving a more pixel-dense image. But even though some e-Shift models could accept 4K sources, they still had to convert them to HD before instigating the e-Shift process.

Epson's 3LCD range includes models with '4K Enhancement' (the EH-TW7400, EH-TW9400 and EH-TW9400W), a similar pixel shifting method.

The DLP world is rife with 4K models that don't feature native 4K chips. Instead, they use the speed with which DLP mirrors can be switched to 'double flash', delivering multiple pixels of picture information within the time period of a single image frame. There's an ongoing debate over whether this approach produces a genuine 4K experience, although it has been endorsed as such by the Consumer Technology Association (CTA) in the US. And we've seen for ourselves that it can deliver palpable beyond-HD sharpness even on quite affordable models.

An issue to consider when it comes to resolution and projectors is the size of the imaging chips being used. With DLP projectors, while there can be numerous factors about the construction of a particular generation of chip that can affect its performance, as a general rule bigger chips deliver sharper pictures. Smaller chips are cheaper to produce, and so designed to produce cheaper DLP projectors. You'll generally find 0.47in chips in lower-cost DLP designs, and 0.67/0.66in versions in higher-end units.



UHP lamps have shorter life-spans than LED and laser systems, but are relatively affordable to replace

LAMP, LED OR LASER?

Home cinema projectors use one of three light sources: UHP lamps, LEDs, or a laser. All have their own strengths and weaknesses.

Most common by far are UHP lamps. The output of these varies from model to model, affecting the potential brightness each can deliver. They generally produce a straightforward white light output that gradually reduces over the lamp's life-span. The projector often carries a lamp timer system to let you know when you should replace it to stop images becoming too dim.

Models that use LED illumination include so-called Pico projectors, where the tech allows the production of images from exceptionally small – pocket-sized, in fact – bodies. Yet Pico PJs are limited in the brightness and image sizes they can produce.

A small number of more serious home cinema projectors use LED lamps for other reasons. First, they enable much longer life-spans than UHP – 30,000 hours or so versus 2,000–5,000. They also run very efficiently, reducing power consumption; are claimed to deliver more refined colour than normal lamp projectors; and can be turned on or off instantly, with no need for the warm-up/cool-down procedures associated with traditional lamps.

Using LED lighting for home cinema rather than Pico projection is fairly expensive, however, and perhaps as a result the number of non-Pico LED home cinema PJs is small. Probably the best known are the high-end SIM2 'M' range and BenQ's X12000H.

Another expensive alternative to UHP, and more prevalent than LED, is laser. Such projectors have started to make their mark in home cinemas; we've seen the tech deployed by JVC (DLA-Z1); Epson (EH-LS10000/LS10500 and ultra-short-throw EH-LS100); Optoma (UHZ65); and Sony (VPL-VW870ES, VPL-VZ1000ES, VPL-VW760ES and VPL-VW5000ES). An obvious reason for this surge is that high dynamic range (HDR) video has created a need for more brightness and wider colour ranges, a performance trait of laser illumination. And with laser, like LED, life-spans reach tens of thousands of hours, and the projectors can typically be switched instantly on or off.

Sony uses LED illumination for its MP-CD1 portable Pico projector...



...but its high-end VPL-VW870ES cinema model is laser-based



Eco mode...

There's more to this than thinking 'green'...

Most projectors have an Eco Mode. As its name suggests, this is designed to limit light output to reduce power consumption and extend lamp-life. Thereby saving the planet...

However, unlike Eco modes on TVs, which mostly have an undesirable effect on image quality, projector Eco modes can quite often result in the best picture quality with standard dynamic range sources. This is because limiting light output on a projector usually leads to better black levels – and with SDR content, at least, that's much more important to creating a convincing image than tons of brightness.

Eco modes also tend to turn off dynamic iris (see p32) and lamp features, creating a more stable image, and they also drastically reduce a projector's running noise (see p33).

Note that Eco modes need a fully blacked-out room to work, as their images will look too dark against any ambient light. And they should only be used with SDR playback; for impressive HDR you almost always need to have a projector's light source running on its highest brightness setting.

HDR

All the domestic HDR formats we've seen so far have been designed with TVs in mind rather than projectors, making use of the higher (and more precise) brightness potential of flatscreens. Indeed, early HDR projectors often looked darker and less natural during HDR playback than with SDR content; the exact opposite of the more 'real world' look HDR is designed to create. The good news is projectors have begun playing catch up, improving brightness and colour range coverage and using refined processing to remap HDR sources to better suit their capabilities. Yet despite these efforts, you shouldn't expect a projector to challenge the best HDR TVs in brightness, contrast and colour volume terms. It still feels like a different experience.

All projectors that claim to play HDR can accept the industry standard HDR10 format. Most new models can additionally handle the HLG format preferred by broadcasters – used, for instance, by the BBC for its 4K HDR iPlayer live sports streams and nature documentaries (pictured below).



Your 4K projector might handle HLG HDR, but the Dolby Vision and HDR10+ encodes on 4K discs remain off-limits

Yet currently no projectors support either Dolby Vision or HDR10+, dynamic formats that enable compatible displays to optimise HDR playback by providing extra scene-by-scene picture information. Compatibility with these may appear in the future, but projector manufacturers we've chatted to have suggested the methods projectors use to deliver HDR do not mesh well with the rapidly changing information streams of dynamic HDR.

It remains early days, therefore, for HDR projection. High-luminance models best suited to the format can underperform in black level reproduction, meaning that unless you're using them with extremely large screens, it can be useful to maintain a little low-level light in the room – not really conducive to a genuine home cinema experience.

And if you're tight on budget, you might be better with a model that doesn't playback HDR, instead focusing on a good-performing SDR-only projector that will get the best from 1080p Blu-rays.

LENS SHIFT AND KEYSTONE CORRECTION

Projectors that support lens shift allow you to optically shift the image up or down as well as, less commonly, left or right.

Although lens shifting is still quite rare on very affordable projectors, it's an extremely useful feature, as the chances that the innate angle of projection of any given projector will deliver an image that's perfectly centred on your screen are slim. You'll likely have to move the picture up or down a bit to get it in exactly the right place. And you might additionally want to place the projector offset to the left or right of your cinema/living room to avoid your preferred seating positions.

Projectors with optical lens shift usually provide relevant figures in their specifications, describing the

amount to which the image can be shifted up and down, or left and right, from the centre point of its lens output. For instance, the Optoma UHD60 can have its image shifted vertically from its centre lens point by up to 15 per cent of the image's height.

Without image shifting, you may have to tilt the projector up or down (most provide drop-down legs to support this) or angle it left or right. This means, though, that you will end up with a picture that no longer has perpendicular edges. This is where keystone correction, which digitally reshapes the picture so that edges become perpendicular, comes in. But in doing this, you are essentially distorting the picture and reducing its quality.

In other words, a little lens shift is worth investing in if you're serious about your home cinema ambitions. Just bear in mind that lateral lens shift is much rarer than vertical lens shift.



COLOUR

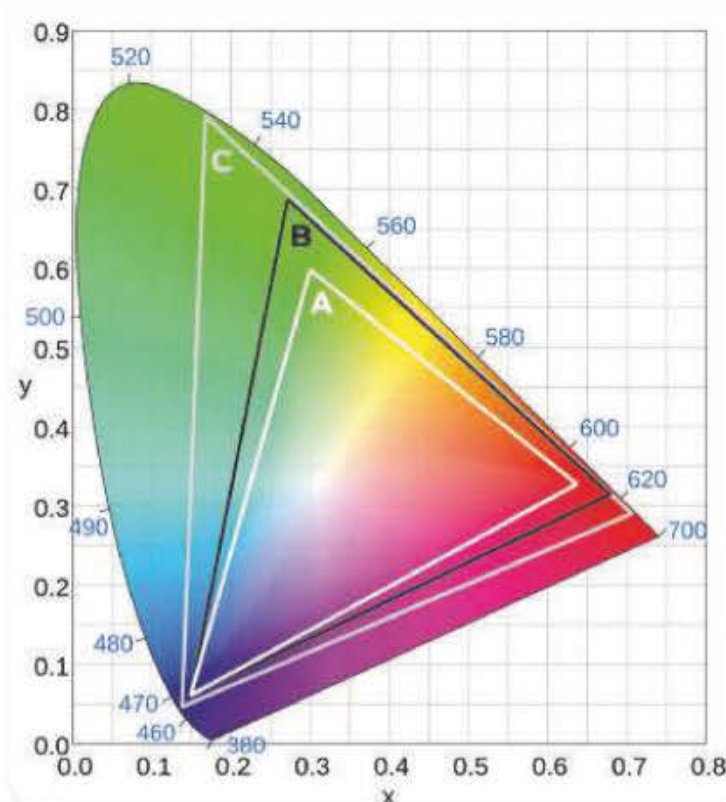
4K Blu-ray not only introduces HDR, it also brings a wider colour gamut. And, again, this is an area where projection is having to evolve.

Until very recently, the majority of home cinema projectors focused on the REC.709 standard used in the creation of standard dynamic range content (e.g. Full HD Blu-ray), and even in this HDR era, accurately covering the REC.709 colour range remains a big deal. BenQ, for example, still emphasises the lengths it goes to (including bespoke coatings for DLP colour wheels, and in-factory colour calibration of each and every projector shipped) to ensure that its new W2700 (see p40) and W5700 projectors get as close as possible to REC.709 reference points.

Yet both those models also aim to get nearer to the wider DCI-P3 and REC.2020 colour spaces associated with HDR playback. Indeed, it seems the need to cater for wider colour palettes has led to a situation where most home cinema PJs now approach full coverage of REC.709. (This is one reason you should choose a dedicated home entertainment model over one positioned as a business or education projector...).

The introduction of new colour filters and, in some cases, advanced laser lighting systems has seen a few projectors starting to push close to the HDR DCI-P3 colour standard deployed in the commercial digital cinema world. Epson's EH-TW7400, for instance, claims around 98 per cent of the DCI-P3 colour range (around 72 per cent of REC.2020) when its colour filter is introduced. BenQ's new W2700 claims around 95 per cent of DCI-P3, and the higher-spec W5700 boasts of 100 per cent coverage – again when using their colour filters. This is a noteworthy development, since if a projector pushes for a higher brightness without also expanding its colour response, colours with HDR footage can look washed out.

However, the filters most HDR projectors currently use to create DCI-P3 colour ranges greatly reduce brightness output. With BenQ's W2700 and W5700,



The above CIE colour space diagram shows the coverage of REC.709 (A), DCI-P3 (B) and REC.2020 (C), and shows the benefits of a wider colour gamut, particularly with green and red image elements. Ultra HD Blu-ray employs a REC.2020 container, but movie content is most likely to have been mastered to DCI-P3, hence projector/TV manufacturers quoting DCI-P3 coverage figures for their models

for instance, calling in the colour filters can reduce brightness by more than 50 per cent.

But there's good news. Improvements to projector luminance (it wasn't that long ago that even premium models had brightness ratings below 700 Lumens) means that even behind their colour filters, wide colour models can maintain what feels like an HDR experience – albeit one that needs a dark room to be enjoyed.

The bottom line is you should always look to buy a projector that has been colour tuned for home cinema rather than other uses, even if you're only going to be feeding it SDR material. And if you're keen on a convincing HDR/wide colour performance, look out for one with a decent colour filter or wide-colour laser light source.

3D lives on

Home cinema projection still has spex appeal

Projectors have always felt like the most natural home for 3D. Experiencing the third dimension is much more convincing when it fills your field of view – something only projectors can do at any sort of sensible price.

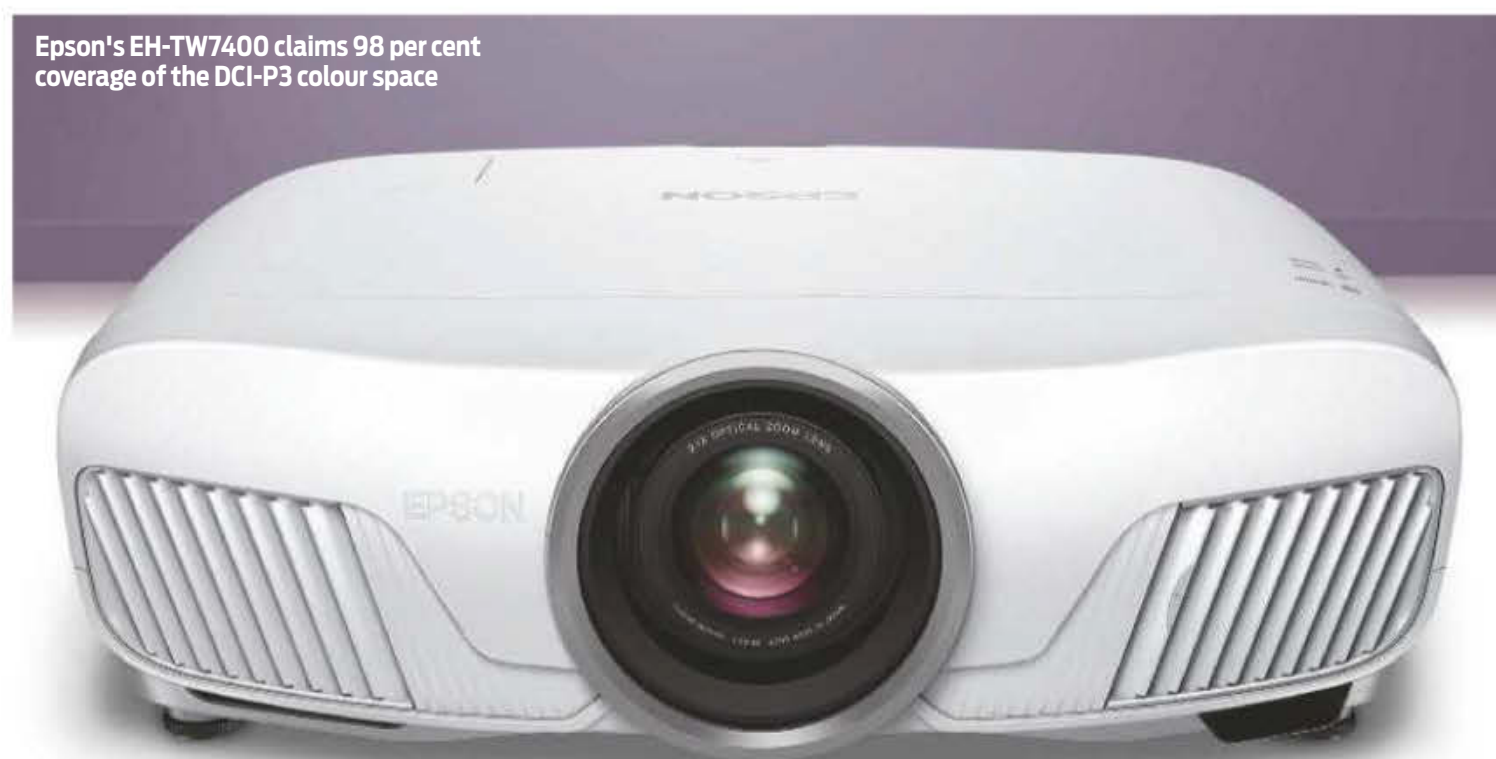
Many still provide 3D support even while TV brands have given up on the format, but it's not quite as 'universal' as it used to be. While Sony, for instance, supports 3D on all of its current 4K and HD SXRD models, Optoma and BenQ have non 3D-capable 4K projectors in their lineups. And JVC's current range is 3D capable, but the units don't ship with a built-in 3D transmitter – it's an optional extra.

Also bear in mind that, unless you find a package deal somewhere, no 3D projector these days ships with 3D glasses as standard. Each pair you need is an additional cost.

So if 3D really matters to you, double check that any projector you're interested in supports 3D playback (from Blu-ray, too – some only handle PC delivery), and don't forget to factor in the price of the glasses you'll need.

In terms of performance, when 3D projectors first arrived they tended not to be all that good. Their dependency on active shutter 3D technology could cause distracting flickering issues, a significant drop in brightness, and the fatiguing double ghosting effect known as crosstalk. Yet all these issues have been improved significantly, with even budget projectors capable of impressive 3D visuals. The reduction in brightness, however, is still enough to make us suggest you get a relatively bright model if you're a 3D fanatic.

Epson's EH-TW7400 claims 98 per cent coverage of the DCI-P3 colour space



THROW RATIO

A projector's throw ratio describes the relationship between the image size it can produce when set at different distances from the screen. A ratio of, say, 1.7:1 means a distance of 1.7m is required to get a 1m-wide picture. Factor in a projector's zoom feature, and you'll get a figure with some variance – e.g. 1.7-1.9:1.

The throw ratio is therefore a key factor to consider when deciding which projector to buy. After all, almost every home cinema room is a different shape or size, so you need to be sure that the projector you get can give you the sort of image size you want from the space available.

The obvious approach is to figure out what screen size you want first, and roughly where you want your projector to sit, before buying anything.

For instance, thanks to its relatively short-throw lens and 1.3x zoom, the BenQ W2700 can deliver a 120in picture from 3.01m-3.94m – equating to a throw ratio of 1.13-1.47:1. Optoma's UHD60 can deliver a 100in image from 3.7m-5.9m, thanks to its 1.6x zoom and 1.39:1-2.22:1 throw ratio. For largescale home theatres where the projector is to be mounted on the rear wall, a long throw is essential.

It used to be quite difficult to find useful throw ratio information on projectors. Now, though, some manufacturers include a full table of throw data for each of their models on their websites. It's also often possible to download user manuals for different projectors via a website's support section, and those manuals invariably contain throw ratio data.

Some manufacturers provide online throw distance calculators, where you can check whether a model can give you the sort of picture size you want from the necessary throw distance.

It's worth noting here the difference between optical and digital zoom. Optical zoom uses the lens to adjust the image size, without significantly degrading image quality. Digital zoom tries to make part of the image look bigger by using processing to remap the image's pixels. This should be avoided, as it reduces image quality considerably. In other words, even if a projector supports digital zoom (most home cinema models don't), don't take it into account with your throw ratio calculations.

Beyond short-throw and long-throw projectors, there are also ultra-short-throw (UST) projectors, which deliver home cinema-sized pictures from incredibly short throw distances – just a few inches, in some cases – and are designed to be installed close to a wall/screen rather than somewhere in the middle of the room.

The main appeal here is convenience, a discreet setup, and a lack of lengthy cable runs, but there are other benefits. Firstly, as UST models have much less distance to throw their images, they can retain more brightness in ambient light than most 'normal' projectors. Secondly, having the body of the projector so near to the picture means that if it has built-in speakers, there's less of a sense of dislocation between sound and image – and some UST models put more effort into their onboard sound systems than conventional rivals.

For a stealth install, consider a drop-down electric screen



Dynamic iris

Improving contrast – but at what cost?

Some projectors carry dynamic irises. Irises are sliding circular shutters that can adjust the amount of light they let through the projector's lens. The dynamic part refers to the way they can adjust the light let through to suit the demands of the image at any given moment. So if you're watching a dark scene, the dynamic iris can reduce the light output to deliver deeper, richer, more convincing black levels. While for bright scenes, the iris can open up to let out much more light.

Dynamic irises can cause a couple of issues. The most common one is image instability, where the picture seems to flicker as the iris adjustments are either too hyperactive or too slow. And the dynamic iris itself can create some quite distracting noise as it operates, noticeable during a movie's quiet periods.

Delivering good picture quality from UST PJs can be challenging. Issues include bowing along the top edge of an image, and/or a loss of focus in corners. There can sometimes be inconsistent brightness across the picture too, and there's also often zero optical zoom with ultra-short-throw projectors, so adjusting image size involves physically moving the projector forwards and backwards.

Now that home cinema users are starting to show more interest in ultra-short-throw solutions, though, it's noticeable that the quality of pictures they produce is increasing generation on generation.

Sony's £20,000 VPL-VZ1000ES, for instance, goes so far as to build a 4K HDR ultra-short-throw projector with laser lighting into a designer cabinet. Even Epson's much more affordable £2,600 LS100 laser UST model delivers a commendable home cinema picture.

Sony's VPL-VZ1000ES doesn't look like a typical PJ...





Fan noise

All part of your projector keeping things cool

Projectors generate heat from their lamps or lasers. This heat has to be dissipated, usually by expelling it out of the bodywork via fans, and those fans make a noise. Enough noise, if a projector design isn't careful, to distract you from the film you're watching.

The fan mechanism can affect the level of noise a projector produces, as can its build quality and even its size, with bigger models having more space for accommodating sound-deadening ventilation and exhaust systems. Running a lamp high (for HDR playback) will also lead to more cooling noise.

It's not just the noise that can become irritating. The amount of heat blowing into your room can also be uncomfortable if your setup means you're sat close to your PJ.

Ceiling mounting may reduce the extent to which heat and noise can impact your viewing experience, as will installing the PJ in a 'hush-box'.

SCREENS

Projectors are only part of the home cinema story. To maximise the performance from any model you buy, you should aim to partner it with a dedicated screen. This can substantially improve the colour, detail, brightness and, potentially, even the contrast of your visuals, over just pointing it at a wall.

Your screen choice will be affected by your budget and type of installation you want. If you're setting up a dedicated home cinema room and want to save a bit of money, you could opt for a fixed-frame screen, which is permanently hung on your wall. But for a more discreet setup, perhaps one also incorporating a wall-mounted flatscreen or in a living room environment, a roll-up/roll-down model is preferable. Again, money can be saved here by opting for a manual version in a portable box to be stashed in a cupboard when not in use. For a smarter and more permanent setup, an electric screen (kicked into life by a PJ's 12V trigger output) is the way to go.

Another consideration is the screen's aspect ratio. The most common is 16:9 (the same as flatscreen TVs), but some enthusiasts prefer 2.40:1, as this ratio is frequently used in the film world, and enables you to get that widescreen feel from your widescreen movies. Put on a CinemaScope classic and it will be projected bigger than *EastEnders*.

If you like the idea of a 2.40:1 screen, don't forget the black bars above and below 2.40:1/2.35:1 movies are 'baked in' to the DVD, Blu-ray or 4K Blu-ray picture. To fill your screen with a correctly ratioed 2.40:1 image, you will need to either zoom the image (thus forcing the black bars onto its surrounding frame), or use a PJ with anamorphic projection modes (which stretch the picture vertically) and an anamorphic lens attachment that stretches the image horizontally.

The latter is a premium solution, mostly found in custom cinema installations, while the former is relatively straightforward but requires manual intervention when switching from one aspect ratio movie to another. A fix comes in the form of projectors with lens memory functionality. This feature is supported by a growing number of PJs that carry motorised lenses; you can set different zoom and focus settings to suit different aspect ratios, switching between them once you've set them up at the press of a single button.

Just be aware that movies with shifting ratios – usually to accommodate scenes created for IMAX, such as *Dunkirk*, *Aquaman* and *Mission: Impossible - Fallout* – don't play nicely at all with 2.40:1 screens and anamorphic lenses/lens memory setups, as projectors can't adjust on the fly to cope.

Another element of your screen to consider is what it's made of. Different materials can deliver different light 'gain', for instance. If your projector isn't very bright, a screen with a 'gain ratio' higher than one – 1.2, say – might help you get more punchy images. Or a screen with a gain of less than one could help you remove potential 'shimmer' if you're using a bright projector. If you really value black level and have a dark room, you could even consider a grey rather than white screen.

GETTING SET UP

There are two aspects to setting up a projector. First, the physical part, involving getting a focused, straight-edged image in the right place and size to fit perfectly on your screen, and second, the software part, where the projector's menus are used to adjust the way the image looks on your screen.

When it comes to physical setup, projectors either have manual or motorised zoom and focus adjusters. In the case of manual focus and zoom, these adjustments are usually either movable rings around the front of the lens, or sliding adjustments on the top of the lens barrel accessed through windows in the projector's chassis. Motorised projectors, on the other hand, can have their zoom and focus adjusted via remote control.

Some projectors carry built-in test screens – usually square grid patterns – to help you get zoom and focus spot on. If your PJ doesn't have a test screen, call up the menus and pay attention to the sharpness of the text as you alter focus.

When it comes to menu-based adjustments, the first thing to get right is the picture preset. These vary from brand to brand, but usually there's a Movie or Cinema mode that works best for films, plus a TV or Bright mode for viewing in ambient light.

If you're watching something in HDR, look out for features that let you adjust the HDR brightness or contrast settings. These essentially sacrifice light range for a generally brighter image, and can make HDR projection more watchable.

Also pay attention to lamp modes. As noted previously, Eco (or Low) settings can give the best results with standard dynamic range content, but you will almost always have to set the light output to full for HDR viewing.

Dynamic modes (usually associated with dynamic irises) are always worth experimenting with. Some can make the image look unstable due to brightness fluctuations, but others deliver a great improvement to contrast without causing too many side effects.

Colour adjustments are to be handled with care unless you're a qualified calibrator. That said, if you have an HDR-capable projector with a wide gamut colour filter, you should try this out. And with DLP models, try introducing the BrilliantColor setting; this can enhance colour saturations, albeit with often a resulting increase in noise levels or a change to the basic colour temperature.

Finally, treat any noise reduction or motion processing systems a PJ may have with caution – as you would with a flatscreen TV. Noise reduction can make pictures appear soft, while motion processing can cause distracting digital side effects, or introduce the soap opera effect, which is an instant way to kill the appeal of largescreen projection.

Many models now carry ISF picture modes to be used by professional installers to calibrate a PJ to deliver the most accurate colour performance possible for your specific room conditions. For permanent, premium setups, this is a service that's worth considering.

Once set up... put on a movie and enjoy! ■

Putting the big into bigscreen

This premium theatre marries a high-end 4K laser projector to a 3.5m-wide lateral masking screen. **Daniel Sait** enjoys the view

KIT CHECKLIST

DIGITAL PROJECTION: Laser 4K DLP projector with Prismasonic anamorphic lense

SCREEN RESEARCH: 3.5m-wide 2.35:1 acoustically transparent projection screen with lateral masking

KALEIDESCAPE: Strato 4K movie player

PIONEER: UDP-LX500 4K Blu-ray player

APPLE TV: Apple TV 4K

AUDIOCONTROL: Maestro M5 processor; Pantages/Savoy power amps

PARADIGM: CI Elite Series 7.2.2 speaker array, plus subwoofer amplifiers

CRESTRON: MC3 control system; TSR 302 touchscreen remote

LUTRON: Automated curtain rail and blinds

FURMAN: Power conditioner

CUSTOM-MADE: Starlight ceiling



PRESTIGE AUDIO ORIGINALLY installed high-end sound systems in this customer's supercars, now the company has provided the same top-end treatment to their home with this impressive 4K/immersive audio cinema.

Joe Carri, Commercial Director at Prestige Audio, explains that the finished project is quite different than what was first envisaged. 'The room is approximately 5m x 5m, and the client wanted a high-performing cinema for around £30,000-£40,000. We invited them to Pulse Cinemas [AV equipment distributor with its own demo facilities] to demonstrate various systems and a decision was made. The client wanted a big cinema performance and increased his budget to £150,000, including seats, lighting and floor/wall fabrication...'

A main challenge was locating speakers around the room's existing windows – two small ones not centred on the rear wall, and a larger window on the left-hand side. Diffusers were employed around the twin rear speakers to help performance, and room correction via AudioControl's Maestro M5 processor (used in conjunction with AudioControl amplification to drive the 7.2.2 Paradigm system) worked to combat sub-optimal placement of the surround channels.

For the interior design, it was agreed the room should be simple and include dark, non-reflective colours, providing a performance boost for the ultra-high-end Digital Projection laser 4K projector. Finishing touches include automated blinds and screen curtain, a star ceiling, and LED lighting at floor, ceiling and screen level ■

A. One size fits all

The acoustically transparent 2.35:1 screen has lateral masking to cope with different onscreen formats, such as 16:9 or 2.00:1

B. Perfect view

Seating is across a single row, with leather recliners for up to four viewers





C. Light fantastic

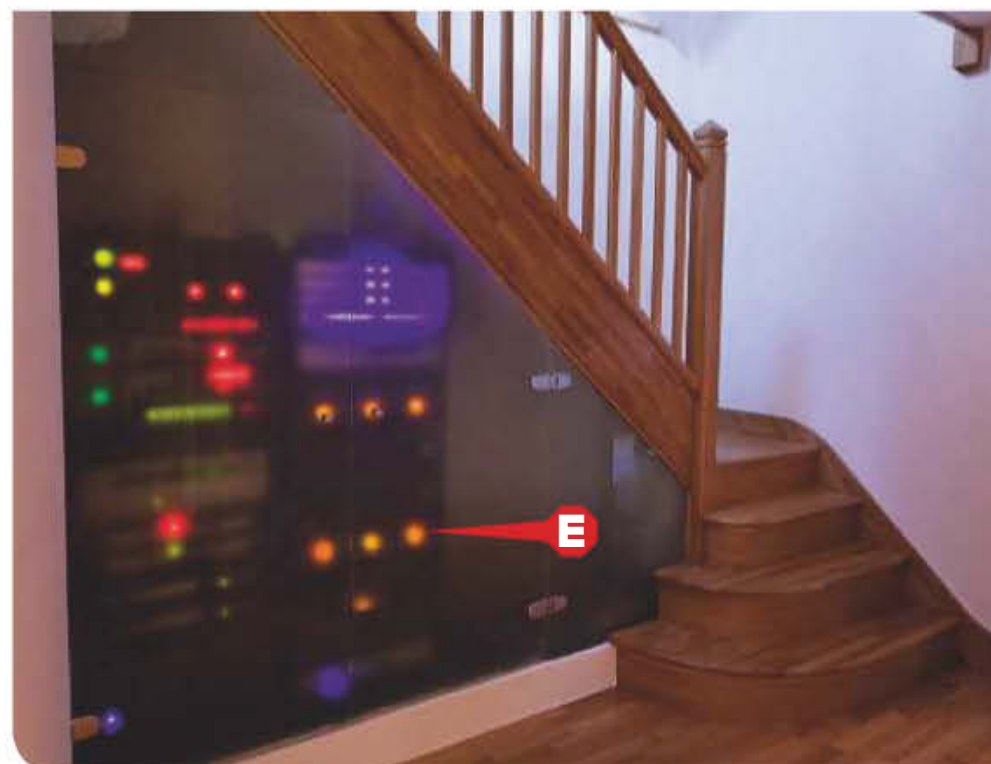
This laser-lit 4K DLP projector from Digital Projection claims a 7,500 Lumens brightness rating, ideal for creating the cinema's 3.5m-wide images

D. Movie memorabilia

While the cinema aims for a minimalist aesthetic, space was allotted for the owner's collection of signed film posters/photos – including Sly in his prime

E. Behind the glass

Rather than reduce space in the theatre by constructing a boot room, the AV equipment rack is instead hidden away under an adjacent staircase



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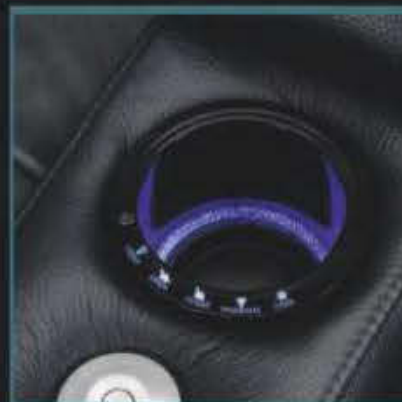
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REVIEWS

→ **HARDWARE** LG 65in OLED with revamped picture processing and smart skills
 YAMAHA Seven-channel Atmos/DTS:X AV receiver BENQ Mid-range UHD DLP projector
 B&W Dual 8in, 1,000W subwoofer SAMSUNG Second-tier QLED TV AMAZON Echo Link Amp
 IOTA Affordable multichannel AV processor EDIFIER Active wireless stereo system & MORE!

Aria system sings

Clever driver technology and elegant design combine in this 5.1 system from Focal's Aria lineup. We're all ears on p48



HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

All prices quoted are approximate and may have changed

1

BenQ

BenQ's W2700 is the first of a new breed of more colour-rich 4K DLP projectors. **Steve May** opens his eyes

Wider colour home cinema

Colour us excited! The W2700 is the first single-chip DLP 4K home projector to aim to hit the wide colour space of the DCI-P3 standard used in digital cinema, and favoured by 4K UHD Blu-ray. According to BenQ it falls a little short (reaching 95 per cent coverage), but it's an intriguing development.

Wide Colour Gamut (WCG) support has long been common on higher-end UHD TVs, but until now affordable DLP projectors have only been able to cover regular REC.709. Thanks to the introduction of a new generation of Texas Instruments' XPR (Expanded Pixel Resolution) devices, that wider colour palette can be yours to project.

Design-wise the W2700 is immediately impressive. With its faux aluminium fascia, offset 10-element lens array and compact white cabinet, it's entirely living room friendly.

Rear connections include two HDMI inputs (both of which are v2.0b and HDCP 2.2 compliant); a 12V trigger for syncing to an electric screen; an RS-232 serial control port; USB 3.0 media reader; and USB power jack. The provision of the latter allows you to directly attach an HDMI streaming stick to one of the HDMI inputs.

These rear connections are sandwiched between a 2 x 5W integrated stereo sound system, boasting CinemaMaster Audio+ DSP processing. While fine for casual impromptu use, this won't satisfy home cinema enthusiasts for long. There are also digital optical audio and 3.5mm stereo analogue outputs.

The projector ships with a matching white remote control, with (orange) backlight provision. If you lose it down the sofa, there are onbody controls to access and navigate the main menu.

Providing illumination is a 145W UHP lamp, driven by proprietary algorithms which BenQ says maximise colour

HOME CINEMA
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AV INFO

PRODUCT:
4K UHD single-chip
DLP projector

POSITION:
Affordable
stablemate to the
high-end W5700

PEERS:
Optoma UHD51;
Epson EH-TW7400

1. The W2700's lens/
zoom delivers a
1.13-1.47:1 throw ratio

2. The handset is
compact and backlit

accuracy. Peak brightness is quoted at 2,000 Lumens, which is pretty much par for the affordable DLP course.

Setup is uncomplicated. Zoom and focus adjustment are manual, hidden behind a sliding hatch on the top of the unit, and it takes no time to frame and sharpen the image. The W2700 is a short-throw model, requiring between three and 3.5 metres for a 120in image, via a 1.3x zoom.

While the projector offers large button graphics when selecting inputs, the main interface is a more traditional tabbed box. Here you'll find brightness, contrast, colour tint and sharpness sliders, and an advanced menu offering HDR brightness control to maximise snap depending on projected image size.

One welcome wheeze that comes with the W2700 is an individual calibration report. This has both the model name and individual serial number of the unit, and confirms compliance with 100 per cent of REC.709, and 95 per cent of DCI-P3. Every sample is measured and pre-adjusted

for REC.709 in the BenQ factory to minimise colour variances between models.

Standard picture modes are Bright, Vivid TV, Cinema, Dark Cinema, and User/ISF Day and Night modes. While Bright is largely unwatchable, the Vivid TV option is certainly acceptable when viewing with some level of ambient light. That said, the basic Cinema mode is probably the best all-round performer with 1080p content.

When fed HDR, the projector locks into HDR mode, and the aforementioned picture presets are unavailable.

Crafting colour is a six-segment RGBRGB colour wheel, which I found does a good job suppressing that old DLP bugbear rainbow fringing. At no point did I feel I was seeing the characteristic DLP trait.

Cinematic concoction

Overall, picture performance here is gorgeous for the price, offering supreme sharpness, authentic hues and solid





3

dynamics. *Our Planet* (Netflix) proves to be perfect W2700 fodder. Shots of the Earth from orbit boast stunning vibrancy and detail; teeming underwater life is a riot of colour, while a hummingbird silhouetted against the sun gives the model a chance to show its HDR prowess.

The PJ may not be native 4K, but image integrity is outstanding. Even when viewed up close, there's no obvious pixel structure. The detail of skin tones and subtle textures are brought to the fore. There's a good deal of brutal architecture on display in Amazon Prime thriller *Hanna*, and it all exhibits better-than-1080p solidity and depth.

The projector is branded HDR Pro, reference to an optimised tone mapping technology used for both HDR10 and HLG content. As we've often said, PJs are not ideally

'BenQ has achieved something special here with HDR – there's a veritable bonfire of bright highlights'

suited for HDR as they can't illuminate specific areas of an image in the same way a TV panel can – and, at worst, can darken the image down unacceptably in an effort to create dynamic headroom. But BenQ has achieved something special here. When Tim Roth is trying to tranquillize Edward Norton's Hulk in the bottling plant (*Incredible Hulk*, 4K Blu-ray), there's a veritable bonfire of bright highlights amongst the dark scenes. Gunshots spark in the gloom, and bullets ricochet brightly off storage tanks. There's no indication that the W2700 is dulling down its images to present brighter peak highlights.

Normally, I'd forgo a Dynamic Iris, to avoid image pumping and the scritch sound of the iris adjusting, but on the W2700 it has a pronounced beneficial effect on the picture. In *Hanna*, computer screens suddenly glare with intensity when the Dynamic Iris is engaged.

So what of that DCI-P3 colour performance? Unlocking a wider colour gamut (the mode is selectable in the display menu) essentially requires the W2700 to reduce light output by around 50 per cent. It's a trade-off you'll need to come to terms with, either opting for enhanced brightness or colour handling, and its benefits are not always apparent. Indeed, at times the low-brightness/WCG

SPECIFICATIONS

3D: Yes. Active 3D (glasses optional) **4K:** Yes. 3,840 x 2,160 (Texas Instruments XPR) **HDR:** Yes. HDR10; HLG **CONNECTIONS:** 2 x HDMI inputs; optical digital audio output; 3.5mm audio output; 12V trigger; RS-232C; USB media reader; powered USB port **BRIGHTNESS (CLAIMED):** 2,000 Lumens **CONTRAST RATIO (CLAIMED):** 30,000:1 **ZOOM:** 1.3x **DIMENSIONS:** 380(w) x 127(h) x 263(d)mm **WEIGHT:** 4.2kg

FEATURES: Single-chip DLP system; built-in 2 x 5W speaker system with CineMaster Audio+; lamp-life rated at 4,000 hours (Normal), 10,000 hours (Eco), 15,000 hours (SmartEco); 1.13-1.47:1 throw ratio (100in at 2.5m); CinematicColor with claimed 95 per cent DCI-P3 coverage; HDR-Pro tone mapping; MEMC Motion Enhancer; ISF Day/Night presets; 10 per cent vertical lens shift

PARTNER WITH



AMAZON FIRE STICK 4K: Power Amazon's diminutive streamer via the BenQ's USB port and hook it in via HDMI to enjoy a wide range of subscription video-on-demand content (including Netflix) in 4K HDR where available. Priced £50.

image can look quite flat in comparison to the PJ's REC.709 delivery – the stylised colour grading of *American Made* (UHD Blu-ray) doesn't equate to an obvious boost; switch Wide Colour gamut off and the overall brightness visibly increases, and the picture just looks livelier.

It's a feature that warrants personal experimentation, and should only be used in a controlled light environment.

The W2700's new XPR DLP chipset brings another talent, in the form of improved black level performance. When our heroes escape from Hawkins Lab in *Stranger Things* (Netflix, Season 2, episode 8), through darkened corridors lit only by a flashlight, the projector manages to keep a watchable balance without crushing out the shadows. BenQ quotes a dynamic contrast of 30,000:1.

There are still limits to low-level fidelity from this well-priced beamer, though. As Chris Pratt hides behind a plinth from the raptor in the dinosaur museum (*Jurassic World: Fallen Kingdom*, 4K Blu-ray), there's a void where shirt detail and shadow should co-exist.

Operating noise is perhaps the W2700's most notable flaw. In Normal mode it hits 30dB, and drops only to 28dB in Eco. There's a cost to be paid in picture brightness, but the saving is still worth it.

Value added

The W2700 is a cracking UHD DLP projector that won't break the bank. Its HDR handling is one of the most effective we've seen on a sub-£2,000 projector, and the overall design is neat and contemporary, making it a good choice for a living room or media rooms. Having the option of a wider colour gamut is also welcome, although the loss of brightness it brings is a challenge. Our only serious concern is operational noise. If you can manage this, then this budget 4K beamer is more than worth a look ■

HCC VERDICT



BenQ W2700

→ £1,500 → www.benq.eu

WE SAY: This next-generation 4K DLP XPR projector combines super colour performance with extreme clarity and strong dynamics. It's superb value.

3. Zoom, focus and lens shift controls are manual

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It's back to the
1980s for the
Transformers
franchise p92

The first new OLED flatscreen of 2019 finds **John Archer** in a celebratory mood

LG OLED comes of age

LG's OLED division looks set to face unprecedented competition in 2019, with Sony, Philips and Panasonic all introducing expanded ranges with bespoke technological tricks. But if the Korean brand's 65in OLED65C9 auditioned here is anything to go by, those companies will find it hard to end LG's long-term hold of the OLED crown. This flatscreen is an appealing mix of premium performance and user-friendly smarts.



The OLED65C9's assault on your heart and mind begins with its sensationally thin screen and ultra-minimalist design. New from LG this year is a useful cable tidying system integrated into the rear of the stand, which creates an even slicker feel.

Looking at the TV, it's hard to believe it sits only one step up from the bottom of LG's 2019 OLED lineup. Only the B9 series – which uses a less powerful video processor – ranges below it. But while you can spend more on the E9 series, which features a prettier glass-backed design and more powerful speaker system, or the wallpaper-thin W9 models with external soundbar/processing units, there's nothing mid-range about this TV. Nor it's £3,300 ticket.

Smart cookie

The OLED65C9 delivers a substantial number of feature and performance improvements over its C8 predecessor. At the heart of these enhancements is the second generation of LG's Alpha 9 processor, which powers an impressively upgraded version of the company's excellent WebOS smart engine, as well as refining almost every aspect of the TV's picture and sound quality.

Looking first at the new smart features, LG now builds in support for Amazon Alexa and Google Home voice recognition platforms – as well as its own, excellent ThinQ voice recognition tool.

When you select an app from the main row of launcher bar icons, meanwhile, you now get a second tier of icons linking directly to content available within the selected app (provided the app supports this feature).

You can now also ask the TV to automatically organise the apps in the Launcher bar based on frequency of use, with your favourite apps appearing first.

The old 'adverts' that used to dominate the left side of the launcher bar have gone, replaced by access to LG's Gallery feature. This, like Samsung's Ambient mode, fills the screen with digital artworks when you're not watching the TV.

Another WebOS addition is a link to a Home Dashboard. This presents on one screen everything connected to your TV, from smart and Bluetooth hardware to its AV inputs and Internet Of Things devices. It's the best attempt I've seen yet to fulfil TVs' potential as the central monitoring and control hub of connected homes.

A welcome surprise is the OLED65C9's use of four HDMI 2.1 ports, rather than 2.0. No other 4K TV to date provides such support for this latest step in HDMI's development. Some will argue it's not necessary to have 48Gbps HDMI's on a 4K screen – after all, HDMI 2.1 seems to have been developed primarily with 8K in mind. But HDMI 2.1 opens the door to higher frame rates, as well as data-heavy features such as eARC for passing lossless Dolby Atmos or DTS:X streams to compatible AV receivers or soundbars. It also makes the OLED65C9 the first LG TV to support automatic game mode switching and variable refresh rates. This is good news, particularly as the TV's Game mode measures just 13ms of image lag, although my review sample consistently struggled to sync properly in game mode with Xbox One S and X consoles – LG says this issue will be fixed via firmware.

AV INFO

PRODUCT:
65in 4K HDR OLED TV with WebOS

POSITION:
One rung up from the bottom of LG's 2019 OLED TV range

PEERS:
Sony 65AG9,
Panasonic TX-65FZ952B;
Philips 65OLED803

1. LG's OLED65C9 is also available in 55in and 77in versions

2. The TV's stand now incorporates a cable-tidying system

While the new smart features introduced by the OLED65C9 are all welcome, there are a couple of omissions to point out. First, although LG is adding support for Apple AirPlay 2 and HomeKit functionality later this year, there doesn't appear to be a plan to support Chromecast. Second, the OLED65C9 doesn't play the HDR10+ format, and with Amazon Prime, 20th Century Fox 4K Blu-rays, IMAX 4K Blu-rays, Lionsgate 4K Blu-rays and, we've been promised, Universal and Warner Bros 4K Blu-rays now onboard with HDR10+, this has become more of an issue than it used to be.

AI overload

Exciting these new features might be, but the most important thing about the second-gen Alpha 9 processor is what it does to picture and sound performance.

Beginning with the latter, a new AI sound mode proves effective at analysing the qualities of an incoming signal and then optimising for the C9's speaker configuration. This results in the cleanest, most powerful and most dynamic audio performance I've heard from any generation of C Series LG OLED, and works well with the ultra-dense mix of *Ready Player One*'s first race sequence (Ultra HD Blu-ray). The TV also carries Dolby Atmos decoding (but lacks any upfiring speakers) and has an on/off Dolby Atmos mode. I generally preferred the AI mode presentation, even with Atmos streams; an exception being some Dolby Atmos Xbox game titles, where the experience was unexpectedly three-dimensional and bass-rich.

More AI cleverness comes in the form of a new Picture AI mode, which uses a database of picture 'scenarios' to

more quickly and accurately assess incoming video so that it can apply picture settings in real time. The lower the quality of your source, the more effective this mode is – chiefly because it manages to remove substantial amounts of source noise and compression artefacts without making images look soft.

'This flatscreen can reward you with picture quality that's consistently the stuff of home cinema dreams'

I'm not convinced you should employ Picture AI while watching 4K HDR footage, though. The OLED65C9's new processing does an outstanding job without any extra help.

This OLED TV's images gain brightness and punch when playing HDR. This can be seen in small highlights – such as the stars in *2001: A Space Odyssey* or the gleaming metal on show throughout *Mad Max: Fury Road* (both Ultra HD Blu-ray). But also, even more impressively, it can be seen in the higher average brightness levels achieved throughout typically bright HDR movies.

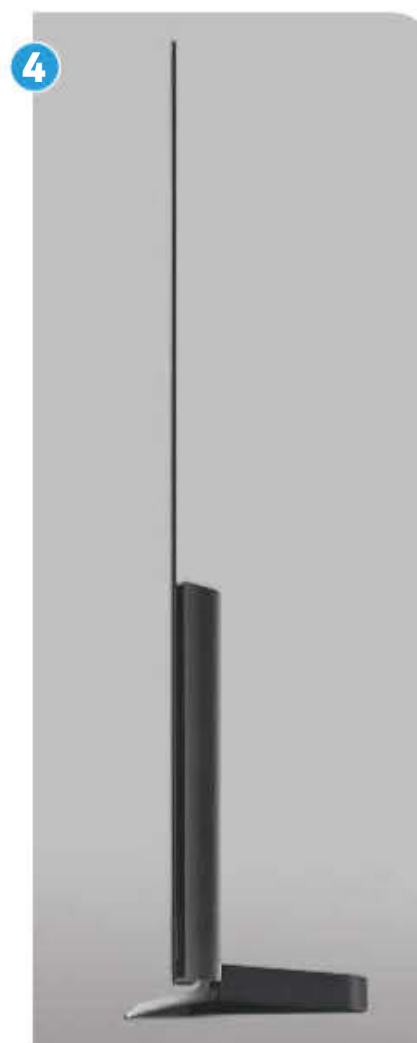
LG's Dynamic Tone Mapping feature combines with the bolder-looking small peak light areas to help the OLED65C9 produce a deeply satisfying HDR experience that ranks as the best the self-emissive technology has delivered.

It actually produces pretty similar levels of light output on a 10 per cent HDR white window to last year's C8 Series; around 820 nits in Standard mode, and around 740 nits in Cinema mode. But the way the new processing manages the light within that limitation is a big step forward.

The extra brightness of the set's pictures also helps unlock a richer, more dynamic colour performance than I've

3. HDR benefits from LG's Dynamic Tone Mapping technology

4. Viewed side-on, the bulk of the C9 seems almost impossibly thin





5

SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR10; HLG; Dolby Vision **TUNER:** Yes. Freeview HD; satellite HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB 2.0 ports; Ethernet; RF input; optical digital audio output; headphone output **SOUND (CLAIMED):** 60W (40W + 20W subwoofer) **BRIGHTNESS (CLAIMED):** N/A **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,449(w) x 830(h) x 46.9(d)mm **WEIGHT (OFF STAND):** 25.2kg

FEATURES: Built-in Wi-Fi; HDMI 2.1; Bluetooth (5.0); Alpha 9 Gen 2 processor; eARC; auto game mode and VRR support; AI picture and sound modes; Dolby Atmos decoding; Amazon Alexa, Google Home and LG ThinQ voice recognition

PARTNER WITH



PIONEER UDP-LX500:

Available for £900, Pioneer's full-size 4K disc spinner (Dolby Vision and HDR10+ compatible) doubles as a high-performance music machine, adding SACD and DVD-Audio support to hi-res media file playback.

seen on any LG OLED. ...*Fury Road*'s bright-blue skies appear more natural and subtly nuanced. Reds, too, look less orange, and there's generally more refinement in colour tone delineation. Tones stay consistent across the panel.

Another boost concerns clarity – the OLED65C9's imagery typically looks slightly sharper and more detailed than it has before, with all source resolutions. What's more, LG has combined this detail boost with a reduction in the slight graininess/grittiness previously visible with some titles. It's a clean-looking image.

Even motion – a long-running weakness of LG OLED sets – has been improved. Judder feels less distracting if you're not using LG's TruMotion processing, while there are fewer awkward artefacts if you do give it a spin, at least on its Clear setting.

These major picture improvements are delivered on top of the familiar OLED foundation of fantastic black levels. The OLED65C9 crafts deep, beautifully consistent blacks during dark scenes that are devoid of the greyness, backlight clouds and light haloing issues associated with LCD technology.

Since every OLED pixel makes its own light, moreover, this screen can deliver its brightest white pixel right alongside its darkest, ensuring a ferociously intense sense of contrast, even if the OLED65C9 can't rival the peak brightness levels of premium LCD TVs such as Sony's Z Series or Samsung's QLED lineup.

The TV suffers none of the reduction in contrast, colour saturation or light uniformity during wide angle viewing you get to some extent with any LCD model, either.

Quick as a flash

This is a TV that therefore sails impressively close to picture perfection at times, but there are also niggles to report. First, LG hasn't fully fixed the 'flashing' issue occurring during moments of very low brightness (transitions around 'near-black' levels), and occasional exaggerated MPEG blocking noise problems, that cropped up on 2018 models. Their impact is reduced; the blocking noise, for instance, seems now pretty much restricted to Amazon Video using the Standard preset. The flashing noise is less aggressive or common, too. Yet it would be great if LG could eliminate these near-black issues entirely.

6



Bright peaks clip a little in Standard picture mode, too, and the slightly reflective nature of the OLED65C9's screen – together with its relatively limited brightness – make it best suited to dark viewing environments.

Finally, you should always remember to handle OLED TVs with care to stop them falling prey to screen burn, where prolonged exposure to static image elements (such as channel logos) can lead to permanent ghosts of those elements being left behind on the screen. LG provides plenty of tools to help you fight this, including a feature that gently decreases the intensity of static onscreen elements to reduce their potential for harm.

Positives about the OLED65C9 overwhelmingly win the day. This is a flatscreen that can reward you with picture quality that's consistently the stuff of home cinema dreams. It offers dynamism and clarity, colour subtlety and rich, deep blacks. Smart skills are comprehensive, and audio performance surprisingly effective. You can almost hear the gauntlet being thrown down ■

HCC VERDICT



LG OLED65C9

→ £3,300 → www.lg.com/uk

WE SAY: It looks gorgeous, it sounds great, it's Einstein levels of smart, and its picture quality is consistently fantastic. All of which makes the OLED65C9 great value, too.

5. All four of the TV's HDMI inputs are 2.1 spec

6. The C9 sits low on a sleek, central stand



Does this 5.1 system have the muscle to back up its good looks? asks **David Vivian**

Firepower and finesse

Focal's speaker lineup goes all the way from bijou to blimey, affordable to 'if you have to ask'. Which is useful when it comes to putting together a 5.1 package that's a few steps above entry-level but, at the same time, isn't going to break the bank, looks fabulous and has the size and wherewithal to fill a big room with movie mayhem – and possess the lightness of touch to play music with grace and finesse, too.

With that as the brief, this multichannel combo seems a nice snug fit. It's based around Focal's lauded Aria family of loudspeakers and offers arguably the keenest value in the whole Focal portfolio, mixing, as it does, the Flax-flavoured driver technology also used in its more quirkily styled (and higher-end) Kanta range (and its custom install-focused 300 Series) with more traditional-looking cabinets.

There's nothing dainty about the front row, which consists of Aria 926 floorstanders (£2,000 per pair), Aria CC 900 centre (£500) and, if you like to keep your sub-bass frequencies radiating close to the LCR action, the front-firing 1000 F subwoofer (£1,100).

At the back are not the Aria 906 standmounts you might expect (although they would fit right in aesthetically) but, stepping up the sophistication quotient, Focal's Aria SR 900 bipoles (£450 each), home cinema-centric models designed to better spread the surround sound around.

Altogether the system cost is £4,500, but you might find it for less. Not bad for a setup that looks as if it should sell a couple of grand more.

What the Flax?

Let's begin at the front with the 926 floorstanders that anchor this system and showcase much of the key 'affordable audiophile' Aria DNA. This handsome three-way tower, in production for a good few years now, is immediately intriguing when you whip off the grille to reveal its distinctive Flax-coned main drivers.

Focal is a great believer in Flax, to the extent that it sources the stuff locally in France and has patented the fibre weave composite it uses for the Aria driver diaphragms. By sandwiching Flax fibre between two thin layers of glass fibre, the resulting cone is claimed to have

high internal damping and high flexural rigidity. Focal says that of all the cone materials it could have used, Flax simply sounds more natural, being low in colouration with great dynamics.

Flax is employed in all three of the Aria 926's 6.5in drivers. Being a three-way design, the one closest to the tweeter, spottable via its smaller dustcap, is dedicated to the midrange frequencies while the lower pair work in line to take care of the bass.

If you want to go bigger with your front L/R speakers, Focal will oblige. The 926 is in the middle of the Aria range, below both the triple-bass-driver 936, and the flagship 948, which uses a pair of 8.25in woofers.

The Aria tweeter is unusual, too. As well as sporting an inverted 1in aluminium/magnesium dome (concave rather than convex to make it less directional), the suspension between the dome and its bracket incorporates Poron, a material with what Focal refers to as 'shape memory.' It's a similar arrangement to one Focal employs for the famous Beryllium tweeter in its high-end (and high-price) Utopia range. The benefit of this suspension, says the company, is that it makes it possible to reduce distortion by a factor of three in the 2kHz-3kHz range where the human ear is at its most sensitive.

All about that bass

A chunky lift at 17.8kg, the Aria 926's metre-tall, vinyl-wrapped enclosure is nicely finished and both front and base-ported, a slightly fiddly-to-fit cast plinth [not photographed] providing the required clearance for the latter. Although there's a fairly serious-looking subwoofer with this 5.1 package, these floorstanders are claimed to be fine with the heavy lifting down to 45Hz at -3dB. Connectivity is kept to just single

AV INFO

PRODUCT:
5.1-channel speaker system

POSITION:
A rung or two above Focal's entry-level

PEERS:
Monitor Audio Silver 500 5.1;
Bowers & Wilkins 700 Series 5.1

1. Flax drivers are found across the range, including the 1000 F subwoofer



binding posts around the back, so no bi-wiring option – but at least it keeps the cable count down.

Next up is the Aria CC 900 centre speaker. This is a two-way design and in addition to the usual jobs of enhancing speech intelligibility and anchoring the central image, Focal claims it has been 'timbre matched' with the other speakers in the group to provide 'coherence' and 'homogeneity' when they're all working together – maybe not such a tricky ask given that it uses the same 6.5in Flax-coned main drivers and 1in inverted dome tweeter as the 926 floorstander. The rigidly-braced MDF enclosure, which has no parallel sides to discourage internal standing waves, sports twin reflex ports at the rear.

Taking care of bottom octave business and a bit below that, Focal's Sub 1000 F subwoofer is a glossy black cube of modest dimension and weight that is nevertheless very sturdily constructed. A Class D BASH amplifier (rated at 1,000W) powers its 12in Flax-coned woofer,

'The Aria family of loudspeakers offers arguably the keenest value in the whole Focal portfolio'

reinforced with an extra layer of fibreglass for additional rigidity. The sealed enclosure design should mitigate any tendency towards 'bottom-end flab' yet Focal claims the 1000 F will dig down to a quaking yet tautly controlled 22Hz at -6dB or 24Hz at -3dB. Integrating it with the rest of the system is relatively straightforward, with Focal providing the standard stereo line-level/LFE input, crossover and phase controls but nothing more exotic than that.

Finally, the Aria SR 900 rears. These are bipole designs with split, angled baffles hosting two sets of drivers to give a more broadly spread sound. They fire in phase, just like the front floorstanders, and this makes them different from visually similar dipole designs where drivers are wired out of phase to create a null at the listening position which, the theory goes, gives a more atmospheric surround effect. Either way, both 'bi-' and 'di-' types are dedicated to rear speaker duties – more so than conventional two-way standmounts.

Each SR 900 enclosure has four drivers – two 5in Flax-coned midbass units and a brace of aluminium/magnesium inverted dome tweeters. Conveniently shallow front-to-back, they look more 'cinema', too – ideally proportioned for wall-mounting and the necessary Polyfix brackets are supplied in the packaging.

Unlike the centre and floorstander models, which can be bought in gloss black and darker Noyer wood finishes if you don't dig the Prime Walnut look of our package, the SR 900 is only available in black.

Mortal danger

I started listening with something quintessentially cinematic in the form of *Mortal Engines* on Blu-ray, from the people who brought you Gandalf, Gollum and 'who knew New Zealand looked like that?' It's kind of *Chorlton and The Wheelies* (Google it), scaled up so that entire cities roll about what's left of the post-apocalyptic countryside on giant tank tracks – both gloriously silly and weirdly thrilling.



It sets out its stall during the opening 15 minutes (Chapter 1) where mega traction city 'London', replete with Big Ben and St Paul's Cathedral, chases, captures and eventually eats a desperately fleeing small Bavarian mining town. Even if you can't gag a giggle, it's stupendous spectacle and the Dolby TrueHD soundmix gives it the lot, relentlessly lobbing the dirty throb of massive diesel engines firing up, the visceral crunch of incalculable tonnage savaging parched earth, and the cacophonous clang of colliding heavy metal at the listener in overwhelming waves. I predict it will become an AV show demo staple and if it doesn't make you jump, your speaker setup simply isn't doing the business.

With my Denon AVR-X4300H's volume wound high, not only does the burly Focal Aria combo deliver the soundmix's juiced-up dynamic jolts with full force, it does so within an extraordinarily huge and spacious soundstage that dissolves boundaries and effectively makes the walls of my room disappear. In other ways, the *Mortal Engines* sequence in question is less about panning, steering and placement than frequency extremes, tonal textures and dynamic contrasts, all areas where the Arias excel. But if home cinema is all about impact, immersion and taking you there, chalk it up as an unqualified 'flying colours' moment for the massed Arias and a very game, fast, tight and well-disciplined 1000 F sub.

Yes, in league with the clear and resolute CC 900 centre speaker, it lends the voice of Thanos – *Avengers: Infinity War* on Blu-ray – the mass and menace it warrants, but it doesn't obscure the tremendously nuanced delivery of actor Josh Brolin with any spilled over boom or bloom, which points to excellent precision and integration.

Furthermore, when the LFE track demands – and here I'm talking about the far more potent *Aquaman* on Blu-ray – the 1000 F's fast Flax cone really starts to move some air, brilliantly conveying what always seems to be the extra weight carried by under-water ballistics.

Transparency and speed

Sharper focus and precision is needed to do justice to the numerous furiously paced set-pieces that furnish *Mission: Impossible – Fallout* (Blu-ray). Again, the Focals' transparency, speed and ability to resolve fine detail in a natural, unforced fashion are equal to the task.

The vicious slugfest in the toilet (Chapter 4), where Tom Cruise and Henry Cavill try to duff up someone clearly better at fighting than they are, is a telling

'An extraordinarily huge and spacious soundstage that effectively makes the walls of my room disappear'

workout for the speakers, too, wince-inducing Foley effects zapping around the reverberant, surprisingly spacious WC like a vigorously whacked squash ball. The Arias neither blur the detail nor labour the action. Once again, and with a rather disturbing sense of realism over exaggeration for effect (even if that's been deliberately sprinkled into the mix), you're in the blood-spattered thick of it.

So what of the Focal Arias' musical chops? Exceptional. Van Morrison's latest album, *The Prophet Speaks*, is all

SPECIFICATIONS

Focal Aria 926

DRIVE UNITS: 1 x 1in aluminium/magnesium inverted dome tweeter; 2 x 6.5in Flax cone bass drivers; 1 x 6.5in Flax cone midrange driver **ENCLOSURE:** Twin ported **FREQUENCY RESPONSE (CLAIMED):** 45Hz-28kHz **SENSITIVITY (CLAIMED):** 91.5dB **POWER HANDLING (CLAIMED):** 40W-250W **DIMENSIONS:** 294(w) x 1,035(h) x 371(d)mm **WEIGHT:** 17.8kg

Focal Aria CC 900

DRIVE UNITS: 1 x 1in aluminium/magnesium inverted dome tweeter; 1 x 6.5in Flax cone midbass driver **ENCLOSURE:** Twin ported **FREQUENCY RESPONSE (CLAIMED):** 57Hz-28kHz **SENSITIVITY (CLAIMED):** 91dB **POWER HANDLING (CLAIMED):** 40W-200W **DIMENSIONS:** 533(w) x 200(h) x 245(d)mm **WEIGHT:** 10.5kg

Focal Aria SR 900

DRIVE UNITS: 2 x 1in aluminium/magnesium inverted dome tweeters; 2 x 5in Flax cone midbass drivers **ENCLOSURE:** Sealed, bipole **FREQUENCY RESPONSE (CLAIMED):** 85Hz-28kHz **SENSITIVITY (CLAIMED):** 90dB **POWER HANDLING (CLAIMED):** 25W-120W **DIMENSIONS:** 150(w) x 253(h) x 252(d)mm **WEIGHT:** 5.6kg

Focal Sub 1000 F (subwoofer)

DRIVE UNITS: 1 x 12in Flax cone bass driver **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 24Hz-200Hz **ONBOARD POWER (CLAIMED):** 1,000W Class D BASH amp **REMOTE CONTROL:** No **DIMENSIONS:** 400(w) x 420(h) x 420(d)mm **WEIGHT:** 21.5kg **FEATURES:** Stereo line-level input; LFE input; 0/180-degree phase switch; variable crossover; auto on/off

PARTNER WITH



MORTAL ENGINES: This bizarre steampunk fantasy marks the return of Peter Jackson (in writer/producer guise). No way near as accomplished as his *LOTR* epics, but the 4K Blu-ray's image is astonishing and the Atmos soundmix never relents.

shades of bluesy bliss, beautifully recorded and with Van the Man in typically fine voice. In stereo or one of my receiver's less obviously processed surround modes, the sound is revealing and rich with a firm grasp of tempo and rhythm. But, most importantly, the music ebbs and flows with a lucidity that's easy to relax into and enjoy. The sense of space and deft textural shading are a joy and, again, the finely-graded palette of tonal colours and the sumptuous yet deep and supple bass the Aria 926 floorstanders and 1000 F sub conjure up between them contribute to a zero-fatigue listening experience.

Match point

It's rare to find a 5.1 surround package at the price that sounds as suavely on top of its game as this one – as at home with decibel-dense blockbusters as stripped-back acoustic ensembles. There really is very little Focal's Aria array can't do to a high standard, but what perhaps stands out above all else is a natural, spacious presentation that isn't tripping over itself to impress and, in so doing, manages to impress all the more ■

HCC VERDICT



Focal Aria 5.1

→ £4,000 → www.focal.com

WE SAY: It's very much a case of *vive la difference* with this more affordable 5.1 system from Focal, its Flax drivers delivering the soundstage capabilities of a pricier setup.

2. Focal's Aria 926 floorstanders feature both 6.5in bass and midrange drivers

3. A supplied plinth raises the speaker and gives this down-firing port space to breathe

Does this midrange AVR do enough to compete? **Steve Withers** finds out

Yamaha's seven up

The RX-A1080 is Yamaha's midrange Aventure AV receiver. It boasts the Surround:AI wizardry of the more expensive RX-A3080 [see *HCC* #298], but at the same time reduces the number of channels (from nine to seven) and thus the cost. Pricing is obviously important in the insanely competitive AVR market, but so are specification tick boxes...

1. Yamaha's new AVR handset is backlit

2. The RX-A1080 is also offered in a titanium (silver) finish



The RX-A1080 is a seven-channel design, but is also limited to seven channels of processing, meaning those wanting to take the immersive route are restricted to 5.1.2. That puts this receiver at a disadvantage to similar-priced models from Denon, Pioneer and Marantz, all of which feature nine channels and processing for 7.1.4. The RX-A1080 needs to up its game in other areas if it wants to remain competitive, and thankfully it does.

For a start it's a looker, with a glossy top section and brushed metal fascia. There's a large and easy-to-read display housed above a drop-down flap, with input and volume knobs either side. It comes in a choice of black or titanium, and its appearance is very stylish.

There's a selection of forward-facing controls behind the flap. Yamaha has ditched the extra HDMI input, leaving a pair of stereo phono inputs, a full-sized headphone jack, the connector for the YPAO mic, and a USB port. In terms of wireless support there are twin aerials at the rear for Wi-Fi, Bluetooth, and the recently added Apple AirPlay 2.

You get seven HDMI inputs, all of which are HDCP 2.2/4K 60p 4:4:4 compatible and all of which support HDR (Yamaha's receivers can pass HDR10, HLG and Dolby Vision, but currently not HDR10+). Of the trio of HDMI outputs, the first two allow you to run a TV and PJ simultaneously, while a third offers multizone functionality. A recent firmware update has introduced eARC support.

Other connections include six digital audio inputs; component and composite video inputs; stereo phono inputs (and output for a second zone); Ethernet; a phono input for vinyl junkies; and system control options including two 12V triggers and RS-232. There's a lot of flexibility.

Beneath the hood, an ESS Sabre ES9007S DAC handles the seven channels, each claiming 110W of power. The receiver can decode Dolby Atmos and DTS:X, plus all other variants of those formats (with the current exception >



AV INFO

PRODUCT:
Seven-channel
Atmos/DTS:X AVR

POSITION:
Midrange model
in Yamaha's
Aventure lineup

PEERS:
Denon
AVR-X4500H;
Pioneer SC-LX701





of IMAX Enhanced's DTS:X audio). There's also Yamaha's proprietary Cinema DSP processing, which promises up to 11 virtual channels and 24 different modes designed to enhance genres such as Sci-Fi, Action, Sport, etc., or replicate the acoustics of specific venues.

Last issue my colleague Steve May praised the new user interface on the RX-A3080, and I'm also pleased the fragmented system of old has been replaced with something prettier and more coherent. It's still a far cry from the intuitive platform offered by Denon and Marantz, but it's a step in the right direction.

Yamaha also offers an excellent AV Controller App, and there's even the option of voice control thanks to support for Alexa Skills and Actions on Google.

The RX-A1080 is compatible with Yamaha's MusicCast multiroom system. This superb platform allows you to stream files up to 24-bit/192kHz to other MusicCast devices, and vice versa. It's a doddle to setup, and everything is controlled via the MusicCast App. Assuming you have at least two compatible devices, your multiroom system can be up and running in minutes. You can easily switch between different sources on the receiver itself, or even different devices connected to the network. There's also an extensive selection of integrated music services that includes Spotify, Tidal, Qobuz and Deezer.

Yamaha also makes musical instruments, which might explain why the company's AVRs retain a pleasing musicality compared to the competition. In fact, this is an area where the company is particularly strong (especially in conjunction with MusicCast), and the RX-A1080 is a highly effective network audio player that sounds fantastic in two-channel stereo.

Listening to the remastered release of Kate Bush's *The Sensual World* reveals the Yamaha's lightness of touch, with church bells gently ringing at the start of the title track

before the rhythm kicks in and the vocals waft over the mix. It's not all airiness and subtlety though; there's plenty of aggression and depth during Dave Gilmour's guitar solo at the end of *Rocket's Tail*.

Processing panache

The sonic enhancements offered by Surround:AI (which uses machine-learning algorithms to enhance content in real-time, based on specific aural signatures) are often impressive, as are the RX-A1080's numerous manually selectable DSP modes. They can give the audio a greater sense of space and scale, highlight effects, and prioritise dialogue. All of this can be beneficial, but ultimately it's still Yamaha's interpretation.

Those seeking a purist approach will be more interested in the RX-A1080's YPAO automated correction system.



This applies 64-bit precision EQ calculations to reduce the negative aspects of the room itself.

YPAO retains a dated and confusing UI, so make sure you choose the correct speaker layout (including the overhead or presence channels) and then assign the amps accordingly. It isn't particularly intuitive compared to running Audyssey on a Denon or Marantz receiver, but the automated EQ routine starts up when you plug in the mic, measuring all speakers in the system up to eight times. You can do less but the more you do, the more data the system has to work with.

It has a tendency to automatically assign the speakers as large, but if you're using a subwoofer it's best to set them to small and then choose the appropriate crossover (as a general rule of thumb 80Hz works well). If you're running more than one speaker layout, you have the option to create two different patterns. There's also a choice of three parametric EQ curves: Flat, Natural, and Front. Unless you're using a pair of mega expensive front speakers I'd ignore the latter, and choose either Flat or Natural. In general I find Flat works best for most content.

Post-EQ the results are often excellent, despite the receiver's limitations in terms of channels and processing. The recent 4K Blu-ray release of *Alien* retains the film's original 5.1-channel mix, and while it's an oldie, it's still a goldie. Right from the Fox logo, the RX-A1080 laps up Jerry Goldsmith's spooky score. The sparse instrumentation is clear and defined, ushering in a palpable sense of unease.

The AVR retrieves all the detail in the soundtrack, ensuring subtle surround effects create a feeling of three-dimensional space, giving the *Nostromo* greater realism. The piercing scream of the Xenomorph is sharp but not bright, the landing on LV-426 delivers potent bass

'Yamaha receivers tend to be big and bold in their presentation, and the RX-A1080 is no exception'

amongst the sonic chaos, and the sounds of Ripley running around corridors towards the film's end are as controlled as they are visceral, with her desperate breathing taking centre stage.

The final episode of season two of *Star Trek: Discovery* (Netflix, 5.1) features a spectacular space battle involving the titular vessel, the USS Enterprise, Klingon warships, and thousands of smaller craft. It's a stupendous soundmix for what is essentially a TV show, and the RX-A1080 gives the action the epic sweep it deserves. Phaser beams rip across the room, explosions tear through the fuselage with a low-end thump, and ships arc around the soundstage. There are plenty of cameras panning around bridges, with directional effects to match, but dialogue is always focused despite the surrounding cacophony.

Yamaha receivers tend to be big and bold in their presentation, and the RX-A1080 is no exception. The benefit of having less channels of amplification compared to the competition is there's more power on offer, resulting in a genuinely dynamic performance. The opening battle in *Bumblebee* (UHD BD) is suitably cinematic in Dolby Atmos, with laser blasts and explosions spread across all the available channels, including overhead. The sound design is complex, but the delivery always remains coherent.

SPECIFICATIONS

DOLBY ATMOS: Yes **DTS:X:** Yes **THX:** No **MULTICHANNEL INPUT:** No **MULTICHANNEL PRE-OUT:** Yes. 7.2-channel **MULTICHANNEL OUTPUT (CLAIMED):** 7 x 110W (into 8 ohms, 20Hz-20kHz, 0.06% THD) **MULTIROOM:** Yes. Zone 2 (HDMI/analogue stereo), plus MusicCast **AV INPUTS:** 4 x composite; 6 x digital audio inputs (3 x coaxial; 3 x optical) **HDMI:** Yes. 7 x inputs; 3 x outputs **COMPONENT VIDEO:** Yes. 2 x inputs **VIDEO UPSCALING:** Yes. To 2160p **DIMENSIONS:** 435(w) x 439(d) x 182(h)mm **WEIGHT:** 14.9kg

FEATURES: YPAO-R.S.C. (Room EQ); vinyl player phono stage; eARC; AirPlay 2; Amazon Alexa support; Actions on Google; MusicCast multiroom compatible; Cinema DSP HD3; DSD (up to 11.2MHz), FLAC, WAV, ALAC hi-res media playback; Ethernet; Wi-Fi; USB; dual subwoofer outputs; Surround:AI post-processing

PARTNER WITH



MUSICCAST 20: In addition to its main function as a desktop multiroom speaker, Yamaha's impressive £170 MusicCast 20 can connect wirelessly to the RX-A1080, using a pair to take over surround duties in a five-channel system.

Bass is nicely integrated, not only adding scale but giving robotic slams more impact, and subtly mixed with the centre channel to give voices depth and weight.

The Blu-ray of *Crimson Peak* boasts a classy DTS:X soundtrack that here makes full use of all seven channels to deliver a highly directional sonic experience. The house in the film is a living character, and this is largely conveyed using aural cues. The sound of wood creaking and groaning moves nimbly from speaker to speaker and the RX-A1080 steers it all with precision. The whoosh of water moving through pipes goes from side-to-side, behind you, and overhead; the tonal balance of these constantly moving effects isn't lost.

However, the limited number of channels available does reduce the overall sense of immersion, and the lack of rear back speakers in 5.1.2 leaves a sonic hole that affects the fluidity of FX steering. *Crimson Peak* sounds excellent on the RX-A1080, but the same film is even more effective with a 7.1.2 or 7.1.4 system. The competition has the ability to support these configurations, which puts the Yamaha at a disadvantage.

Highly musical

The RX-A1080 is a solid AV receiver with updates aplenty. It crafts a large dynamic soundstage, backed up by state-of-the-art processing, is highly musical in its delivery, and thanks to MusicCast is a user-friendly network audio player. But it suffers from direct comparison to its £1,100 price-point challengers – those seven channels of amplification are powerful, but processing is restricted to 7.1 or 5.1.2 with no upgrade path. As a result, while its movie playback performance is superb, better-specified alternatives may well appeal more ■

HCC VERDICT



Yamaha RX-A1080

→ £1,100 → uk.yamaha.com

WE SAY: This dynamic and musical AVR boasts plenty of power, panache and DSP features, but lacks the immersive flexibility of its (sometimes) cheaper competitors.

3. An extra pair of speaker terminals caters to Zone 2 or Front Presence setups

4. Use the full-sized headphone jack with Yamaha's Silent Cinema DSP for late-night listening

**BELIEVE
IT OR NOT**

Relive Ripley's
very first *Alien*
encounter on
UHD BD, p90



**HOME
CINEMA**
Choice
RECOMMENDED

Samsung's latest Quantum Dot TV leaves **John Archer** feeling shaken and stirred

Take solace in Quantum Dots

The first new Samsung TV for 2019, the QE65Q90R [see *HCC* #298], was a stunner. It combined new backlight and viewing angle technology with improved processing, helping to blend the brightness and colour volume traits of LCD with the black level and contrast benefits more usually expected of OLED. But that set is £3,800. The QE65Q85R, a UK/Europe-only model, retains much of the Q90R's skillset but retails for £3,000.

Personally I find the 65Q85R actually more attractive than the step-up model. It's slightly more plasticky and less deliberately monolithic, but its stand swaps the heavy metal plate for an angled-back, open bracket attached to a slim bar that protrudes neatly out in front of the screen.

There's more here than just a cosmetic rethink, obviously. The most significant specification differences between the QE65Q85R and Samsung's top-end 4K display are in the areas of dimming zones and brightness. This screen gets 96 dimming zones for its direct LED lighting versus the Q90R's 480, and claimed brightness drops from 2,050 nits to 1,500 nits.

It keeps up with its more expensive sibling in many ways, though. It ships with an external One Connect box that carries all the same inputs (including four v2.0 HDMI and three USBs), and hooks up to the TV via a single slim, light-coloured cable. The next TV down the Samsung QLED ladder, the QE65Q80R, loses external connections hardware, and features fewer dimming zones.

Like the Q90R, this model boasts of covering 100 per cent of the DCI-P3 colour spectrum. And it also carries Samsung's new wide viewing-angle technology (which is a major breakthrough for LCD TVs), and smart features/interface. Apple AirPlay 2 and iTunes app are coming via firmware, the Ambient Mode for displaying photos/artwork is present and correct, and the QE65Q85R incorporates the Bixby voice recognition and control system, as well as support for Google Home and Amazon Alexa. However, unlike the LG OLED65C9 (reviewed on p44), the Home and Alexa voice control requires external Google or Amazon devices.

Samsung's attractive and customisable smart interface provides access to

pretty much all the apps most people will need, be they the catch-up apps for the main UK broadcasters (albeit not wrapped in a user-friendly Freeview Play wrapper), or Netflix, Amazon Video, YouTube and Rakuten. All support HDR and 4K playback where the app provider offers it.

Bring on the black level

Settling down to see what the QE65Q85R can do, its most startling strength is its black level performance. The screen really can get black in a way that no other LCD TV can – bar Samsung's own step-up Q90Rs. It's hard to believe such dark depths are coming from LCD rather than OLED technology.

It can deliver this blackness while retaining good uniformity during extreme content, such as *2001: A Space Odyssey*'s shots of sun-lit space ships against the darkness of space (Ultra HD Blu-ray). There's practically zero significant light 'blooming' (clouds of greyness) around the film's white ships, despite the reduction in backlight zones here.

Or at least that's the case when viewing the TV more or less straight on; from an angle blooming is much more noticeable, even if the screen's wide viewing-angle technology does an otherwise exceptional job of retaining colour and contrast during off-axis viewing.

As long as you remember to turn off the annoying Eco settings that are set to on by default, the screen also impresses with the level of brightness it can reach with HDR material. As noted earlier, the Q85R's brightness isn't as extreme as its stablemate's, but it's still more than enough to engineer the sort of HDR impact that most other TVs simply can't.

Native 4K pictures from UHD Blu-ray or TV providers look sharp and clean

AV INFO

PRODUCT:
4K HDR QLED TV
with local dimming

POSITION:
Only the Q90R
models rank
higher in Samsung's
4K range

PEERS:
LG OLED65C9;
Samsung
QE65Q90R



1. The set's local dimming uses 96 zones, significantly less than the Q90R

2. It's not OLED thin, but it's still sleek...



3

right out of the box. The TV keeps this crisp feel with motion, too (I found switching Samsung's Motion Plus processing to Custom mode and assigning the blur and judder elements each to level three delivered my favourite results). Upscaled HD images, meanwhile, are among the best you'll see.

Colours appear lush and hugely dynamic, but also full of subtlety. The brightest tones in the riotous 4K Blu-ray of *Spider-Man: Into The Spider-Verse* (an animated film mastered to light peaks of 4,000 nits) look spectacularly vibrant while also, crucially, feeling like a natural part of the film's overall colour palette, rather than peaky or forced.

'The screen really can get black in a way that no other LCD TV can – bar Samsung's own step-up Q90Rs'

Generally the Q85R handles sequences containing real extremes of light and dark exceptionally well, but very complex images that combine lots of low-level shadow detail with bright light peaks, such as Chapter 7 of *Exodus: Gods and Kings* (Ultra HD Blu-ray), can become a touch unstable and grey, as the TV's local dimming engine struggles to adapt itself to the picture as successfully as the Q90R, which benefits from its much higher number of dimming zones.

Fortunately these sorts of sequences are rare. For the most part, the amount of backlight instability the 65Q85R exhibits is minor for a 96-zone TV.

I also noted dark parts of the picture losing a little shadow detail. Raising the TV's brightness setting by one or two notches helps this considerably, but can also cause the occasional raised grey or colour tone. Conversely, bright parts of mostly dark images can very occasionally look a little dull, as the backlight tries to balance out the light to avoid blooming issues.

A final picture shortcoming is the QE65Q85R's lack of support for the Dolby Vision dynamic HDR system. The set does make impressive use of the HDR10+ platform, but Samsung's commitment to one but not the other (a

SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR10; HLG; HDR10+ **TUNER:** Yes. Freeview HD; Freesat HD **CONNECTIONS:** 4 x HDMI 2.0 inputs; 3 x USBs; RF input; Ethernet; digital optical audio output **SOUND (CLAIMED):** 40W **BRIGHTNESS (CLAIMED):** 1,500 nits **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,449.5(w) x 831.2(h) x 61.9(d)mm **WEIGHT (OFF STAND):** 21.5kg

FEATURES: Built-in Wi-Fi; USB multimedia playback; Quantum Processor; 4K AI upscaling processor; QLED Quantum Dot colour technology; Bixby voice recognition; Eden smart platform; Ambient Mode; external connections box; direct backlight with 96 zones of local dimming; Bluetooth

PARTNER WITH



ROBIN HOOD: Build up your HDR10+ library with Lionsgate's 4K Blu-ray for the 2018 period romp. Image quality, from sharpness to HDR contrast to colour saturation, is impeccable. It even carries a Dolby Vision HDR grade too.

situation mirrored by Dolby Vision devotee LG's C9OLED) is perhaps enough to put some potential buyers off, or have them casting eyes at Panasonic and Philips TVs launching this year that support both formats.

The QE65Q85R's mostly excellent pictures deserve a positive finish, though. This comes from an excellent gaming performance helped by an input lag of barely 16ms in Game mode; its available brightness and rich colours; and even automatic game mode switching and variable refresh rate support with Xbox One consoles.

Sound performance isn't as accomplished as its pictures. This Samsung copes fine with day-to-day TV material, particularly treble detailing and voices, and creates a reasonably wide soundstage for a TV with no visible speakers. Yet hefty bass hits find its driver array merely offering a shrug, and the soundstage struggles to open up to meet dense movie mixes or action scenes, sometimes sounding more compressed just when it should be sounding more expansive. There's a lack of direct attack to the sonics, too.

Jaw-dropping HDR

As with the Q90R before it, the main thing about the QE65Q85R is that it takes LCD picture quality to places I'd previously not considered possible with a consumer TV. The combination of high brightness and huge colour volume, with deep blacks, delivers a jaw-dropping HDR performance.

In an ideal world the QE65Q85R would perhaps be a couple of hundred pounds cheaper, giving it more breathing room between it and the £3,300 LG OLED65C9. At the same time, though, this TV's brighter pictures provide a punchier alternative vision to LG's contrast-rich new OLEDs – and it still offers a healthy chunk of the Q90R's flagship quality for £800 less ■

HCC VERDICT



Samsung QE65Q85R

→ £3,000 → www.samsung.co.uk

WE SAY: The QE65Q85R isn't cheap, but its spectacular 4K HDR pictures join those of Samsung's step-up Q90R models in setting new standards for LCD tech.

2. With inputs on an external box, a single cable is all you need



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Artison amp wants to hitch a lift

Steve May plays hide and seek with this space-saving 5.1-channel AV amplifier that's designed to mount to the back of your flatscreen

THE ARTISON NANO Backpack P5 is a Dolby Digital/DTS amplifier unlike any other. Ultra-slim and input-lite, it's AV stripped back to the point of anonymity. And, let's be clear, this is a good thing.

Of all the components that make up home cinema, the AV receiver is the one which has largely remained unchanged. Sure, there's an evolutionary strand of ultra-slim models around from the likes of Marantz, Yamaha and Pioneer, but for the most part the AVR you buy today will look much like the paunchy AVR you bought twenty years ago.

The Nano Backpack P5 is a bit more tuned into the zeitgeist. It doesn't need a plethora of legacy inputs; it's built for the streaming/HDMI age.

As you may have guessed from the Backpack moniker, this amplifier is designed to fit onto the rear panel of a TV rather than sit in an equipment rack. Using two brackets, supplied in the box, it fits snugly onto a dedicated mounting bracket, available as an optional extra.

This makes it a godsend for professional custom installers, who often need to accommodate amplification without bulk or heat.

Of course, you can always use this amplifier in a more conventional locale, placed simply on AV furniture, but

that would make little sense, not least because of the high ticket price.

Now you see me...

The Nano Backpack P5 claims to be the smallest 5.1 amplifier processor in the world, which may not be hyperbole – it stands just over an inch high.

The thinking here is that by reworking the AV amp form factor, any room with a TV can be blessed with a 5.1 sound system without you even noticing. With the Artison discreetly hidden away on the back of a telly (remember you'll need to also accommodate power) you need only to run speaker wire to any chosen loudspeaker in order to rock the room.

In all likelihood, it would be used with on-wall or in-wall speakers, although it could also be partnered with a (premium) passive soundbar or a pair of stereo bookshelf speakers. Artison would probably like you to partner it with its own matching soundbar, the Artison Studio.

The cosmetic design, a mix of aluminium casing and gloss-black plastic, looks smart enough (although ironically it'll probably not be seen). The front fascia, such as it is, features only an illuminated power button. The rear offers rather more clues to its functionality.

AV INFO

PRODUCT:
Ultra-slim 5.1 home cinema amplifier

POSITION:
Currently one of a kind in the Artison product stable

PEERS:
Marantz NR1509;
Yamaha RX-S602

All three HDMI inputs can be renamed, while the lone HDMI output has ARC. All support 4K passthrough. There's also a 3.5mm aux, optical digital audio connection, IR sensor to control other devices (a sticky bug is supplied in the box), and a bank of 5.1 speaker terminals.

One reason the amplifier is so compact is that it eschews traditional loudspeaker binding posts, in favour of plug-in speaker terminals which anchor bell wire with a small screw clamp. Not often seen on consumer audio gear, this is a clue to the pro AV leanings of its design.

'The more I listened to the Nano Backpack P5, the more I liked its demeanour – it's tight, fast and dynamic'

A USB-A jack offers power, so you can connect a streaming stick to one of the amplifier's HDMI inputs. A pre-out handles LFE feed to a subwoofer; Artison has its own Nano models, which take up very little floor space, but for this audition I employed a Yamaha NS-SW300. Main channel duties were handled by Q Acoustic Concept 20 enclosures.

The unit comes with an unpleasantly basic credit card-style remote control, probably because in most situations it will be used in conjunction with rather more sophisticated IP control systems from Control4, AMX, Elan G, Savant, RTI, etc. Both dual-band Wi-Fi and Ethernet are present, plus Bluetooth 4.0 for simple music streaming.

Old-school audio

The amplifier is Dolby Digital 5.1 and DTS 5.1 compatible only; don't expect Dolby Atmos or DTS:X because it's just not that kind of deal. And it doesn't come with a calibration EQ microphone or automated setup, so you'll need to manually adjust speaker size and crossover for each of your connected speakers.

A typical Dolby Digital 5.1 system would have speaker sizes set to small and a crossover for the subwoofer at 80Hz. All the usual Dolby Digital setup options are here although speaker distance is set in feet rather than metres. Playback modes include Pro-Logic 2 and DTS Neo variants. All very old-school.

When it comes to amplification, Artison rates the Nano Backpack P5 at 3 x 75W (into 4 ohms) across the front soundstage, with 2 x 30W (into 4 ohms) going to the rears, all via Class D. Not a room-shaker by any stretch, but, as it transpires, more than enough for the kind of entertainment this model provides.

The amp may be slim but its output is surprisingly large, thanks to accomplished dynamics and pronounced spatial

SPECIFICATIONS

DOLBY ATMOS: No **DTS:X:** No **THX:** No **MULTICHANNEL INPUT:** No **MULTICHANNEL PRE-OUT:** No **MULTICHANNEL OUTPUT (CLAIMED):** 3 x 75W + 2 x 30W **MULTIROOM:** No **AV INPUTS:** 1 x digital optical audio; 1 x stereo analogue 3.5mm **HDMI:** Yes. 3 x inputs; 1 x output (v2.0) **VIDEO UPSCALING:** No **COMPONENT VIDEO:** No **DIMENSIONS:** 30(h) x 250(w) x 245(d)mm **WEIGHT:** 2kg

ALSO FEATURING: Powered USB port; Ethernet; dual-band Wi-Fi; Bluetooth 4.0; IR remote control; external IR sensor; Dolby Digital and DTS 5.1 decoding; subwoofer pre-out; onscreen display; IP control via smart systems including Control4, Crestron, AMX, Elan G, RTI and Savant; optional TV mount bracket

PARTNER WITH



ARTISON RCC NANO ONE: Also in the Nano family is this smallscale active subwoofer which tucks dual 6.5in bass drivers (claiming a frequency response down to 30Hz) into a black or white cubed cabinet. Pricing is around £800.

imaging. The soundstage is larger and more potent than the paper specification would imply.

Watching Premier League football on Sky Sports, the ambience of the live game, with all its atmospheric stadium noise, effortlessly fills the room, while commentary is clean and crisp.

Over in Winterfell (*Game of Thrones*, Season 8, Episode 1, Sky Atlantic), the general hubbub within the castle walls, as the inhabitants prepare for the Night King's arrival, is subtle and believable – the odd goat complains stage right, while the army clamours for battle in the background.

When Peter Parker engages his suit's Enhanced Combat Mode, in *Spider-Man: Homecoming* (Blu-ray), the crackle from his taser webs positively electrifies the front soundstage. The subsequent conflict is full of satisfying crash, bang and wallop.

The more I listened to the Nano Backpack P5, the more I liked its demeanour – it's a tight, fast and dynamic performer that has no problem at all with hard, sudden transients.

Unique concept

Purely in terms of concept, this hits the spot. The idea of taking a fully-fledged surround processor and amplifier, and hiding it out of the way behind a TV, is a good one. Actually managing to make this downsized offering sound decent borders on genius.

If your entertainment needs are largely served by streaming apps and TV connected sources, then it's a cracking compact buy. The elephant in the room is that hefty price point. If you want a batter bang for your buck, then there are more conventional AV receivers, or soundbars, which offer far better value.

But when it comes to form and function, the Nano Backpack P5 is unique. And that makes it rather special ■

1. Power is rated at 3 x 75W for LCR, and 2 x 30W for surrounds

2. To keep the size down, the amp uses bare-wire terminals

2



HCC VERDICT



Artison Nano Backpack P5

→ £1,200 → www.red-line.co.uk

WE SAY: Artison has brilliantly reshaped the traditional home cinema amplifier. The audio may not be cutting-edge, but the form factor sure is.

Small but deadly

Don't let this subwoofer's dimensions deceive you, says **Richard Stevenson**. B&W has crammed performance prowess and considerable power into a 12in cube

THE DB3D IS the smallest in B&W's premium DB series of subwoofers. It's neat, compact and – with its near-£2,000 price tag – not in any way entry-level. And despite its dimensions, of a roughly 12in cube sitting atop a 2in aluminium-trimmed plinth, it weighs a monstrous 25kg, courtesy of the enormous magnets for its two 8in drivers and a super-heavyweight MDF cabinet. In mass density alone, the DB3D ought to have its own gravitational field.

The drivers are B&W's Aerofoil cones with their appealing weave design, set up opposing each other in a sealed cabinet with internal pressure-aiding damping. The sub's 1,000W amplifier is a bespoke B&W design using Class D Hypex modules fitted neatly into the base plinth. Cooling fins run along the bottom, so spikes will be essential on carpeted floors.

B&W caters for quite a few installations though, supplying spikes, silicon domes and tall rubber feet. They screw into a large nut on the metal base panel, which feels a lot more substantial than traditional threaded MDF inserts. That level of exceptional build quality runs throughout the DB3D. From the polished piano-lacquer to the trim, feet and solidly

constructed connection panel, fit and finish is probably without equal at the price.

Getting hooked

Connections span stereo phono and XLR inputs, any one of which will handle an LFE signal. For a smart install, there's a pair of 12V trigger sockets and an RS232 serial connector.

On the connection panel's missing list are speaker-level inputs and any controls. The latter are found on B&W's DB Subwoofers app, which connects your smart device to the DB3D via Bluetooth.

In this app you will find setup, placement and settings guides and independent controls for phono and XLR input. These cover stereo/LFE operation, input gain, crossover frequency, four-position phase and a 12dB/24dB filter slope option. You can set up with any of B&W's own speakers from a drop-down menu or use the built-in EQ settings for Music, Movie and Flat, plus a Custom mode with adjustable parametric EQ across five bands from 20Hz to 80Hz. In terms of physical placement, make



SPECIFICATIONS

DRIVE UNITS: 2 x 8in Aerofoil carbon bass drivers **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 10Hz-350Hz (-3dB) **ONBOARD POWER (CLAIMED):** 1,000W Hypex Class D **REMOTE CONTROL:** No, use app instead **DIMENSIONS:** 320(w) x 360(h) x 300(d)mm **WEIGHT:** 25kg

FEATURES: Stereo phono input; stereo XLR input; 2 x 12V triggers, RS232-C, BT-LE wireless to smart device running DB Subwoofers app; 3 x EQ presets plus custom five-band EQ; phase; crossover; signal detecting on/off

On the left and right faces are 8in Aerofoil woofers

sure the DB3D doesn't have one of its drivers pushed close to a wall (so facing sideways if positioned within the LCR stage), and you're good to go. And good it is too.

Taking the strain

Beginning with stereo music, the DB3D presents luscious depth and tautness. It seamlessly adds a good deal of the bottom octave to the sound without showing any sign of strain.

With movies, the LFE that underpins *Dunkirk*'s DTS-HD MA soundtrack is delivered with virtuoso quality, the DB3D thumping out effects with sublime precision. It's super-fast, super-tight and goes to depths that no 12in bass box has any right to – apparently, you can change the laws of physics. This is a woofer that smoothly becomes an integrated part of the soundmix, getting you enveloped in the movie rather than turning LFE into obvious sound effects. It is astonishingly adept at delivering the goods without being in your face. No sledgehammer – more a sculptor's ball-peen hammer and chisel, razor-sharp and incredibly detailed.

You might hanker for a little more absolute volume, but not often and not if you have neighbours. You might also want it to show more of a gung-ho attitude, but I'm certain that would take away from the DB3D's real appeal, which is that it's breathtakingly refined and articulate.

In fact, I rate it an absolute stunner. Rarely have I come across a subwoofer so small and so perfectly formed, yet so able to dig deep into a soundtrack. Easy to recommend ■

HCC VERDICT



Bowers & Wilkins DB3D

→ £1,950 → www.bowerswilkins.com

WE SAY: Refined, powerful and amazingly articulate, B&W's baby DB series model sets the standard for compact subwoofers.

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Taking cinema sound back to basics

Steve Withers finds out if this well-priced but old-school seven-channel processor holds its own in the immersive audio era

IN THESE DAYS of all-singing, all-dancing object-based audio formats, the idea of a dedicated seven-channel surround processor seems almost prosaic.

But then not everyone wants or can accommodate an immersive surround system. Few people like hanging speakers over their heads, and some setups won't work with upward-firing drivers.

In these circumstances the idea of the IOTA AVX1 starts to make sense, especially when you can pick one up for just £700. That's a cracking price for an AV processor; in part due to IOTA's direct retail model, but also thanks to a stripped-back feature set.

Partner in crime

The AVX1 is designed to be used with IOTA's excellent AVXP1 [see HCC #293], and this beefy seven-channel power amplifier certainly has the muscle to handle the processing. You can even buy the pair as a set for £1,500, which is a potential bargain if 3D audio isn't for you.

I paired the AVX1 with the AVXP1, and they certainly make a nice combo with their matching matt black exteriors and minimalist appearance. However, the build quality isn't quite the same, with the processor more like a jeep compared to the amp's tank-like construction.

The AVX1 design is largely nondescript, although the illuminated power button, logo and volume control are eye-catching, and the central VFD display is simple but effective. There are five navigation controls under the display, along with a 3.5mm headphone socket.

The provided remote is equally as basic, with a plastic two-tone finish and simple

AV INFO

PRODUCT:
7.1-channel processor with Dolby TrueHD and DTS-HD MA

POSITION:
Main processor in IOTA lineup

PEERS:
Denon AVR-X3500H;
Yamaha RX-A880;
Marantz SR5013

button layout. Annoyingly there's no backlight or dedicated volume control (you use the up and down arrows), but it gets the job done, allowing you to select inputs and navigate the menu system.

Said menus are far from intuitive, and using the processor's front panel is an exercise in frustration. Your best option is the onscreen display, but this is hard to follow, with an interface that lacks colour-coding or explanations for more complex functions.

It's not just the menus that are old-school: this processor also lacks Wi-Fi, Ethernet, and Bluetooth (although you can buy an optional Bluetooth adapter). So you can kiss goodbye to any built-in streaming services, multiroom functionality or remote app.

At least the rear panel looks the part with 7.1 outputs using unbalanced phono and balanced XLR connectors. The latter are also present on the AVXP1, which is another reason why you might want to marry the two. Other connections include analogue and digital inputs, a 12V trigger, RS-232 serial port, IR in and out, and a USB port for firmware updates.

At first glance the AVX1 has a solid set of HDMI connections, but on closer inspection it's a bit of a mixed bag. Of the two HDMI outputs only one supports ARC and HDMI 2.0, while only three of the six inputs are HDMI 2.0. That's unfortunate because it's easy to have more than three 4K/HDR sources these days, but at least they support Dolby Vision.

In general, setup is fairly straightforward: simply connect sources via HDMI and then wire up the processor to your power amp(s), ideally using XLR if that's an option. Selecting the desired



input is easy enough, and you can change the mode or adjust the trim (speaker levels) using dedicated keys on the remote.

And once you've got a handle on the menu system, you realise it provides an impressive amount of flexibility, allowing users to configure the speaker layout, speaker size,

'There's an excellent clarity and detail to effects – the sound of shattering glass is rendered with precision'

crossovers, distances, and levels individually. You can even fine-tune the slope of the crossover filter's curve, as well as manually EQ different frequency bands.

If that all sounds a bit complicated, the AVX1 also comes with a calibrated microphone and its own automated room equalisation system called EQFlex. It's fairly easy to run, and while the level of sophistication isn't a patch on Dirac or Audyssey, the results are effective. You can even tweak the loaded parameters manually if you're not completely happy with the results.

Toggling the EQ mode on and off revealed a subtle improvement in the overall balance of the system, especially where the lower frequencies were concerned.

'So why do they call him the Joker?'

With so much talk dedicated to object-based audio these days, it's easy to forget just how good 5.1 can sound when done well. Christopher Nolan is clearly of the same mind, and the opening robbery in *The Dark Knight* (Blu-ray) is a great example. The AVX1 picks out the metronomic beat that times out the robbery, and highlights the discordant strings that represent the Joker. The processor renders the sound of shattering glass with gleeful precision and adds a tight drum beat as the gang swing onto the roof. Shotgun blasts have a brutal percussive kick, and gunfire echoes around the cavernous bank. There's an excellent clarity and detail to the effects.

Having acquainted myself with the IOTA using a sequence I know like the back of my hand, I popped on the UHD BD of *Aquaman*. This big and brash water-logged soundtrack is in Dolby Atmos but the AVX1 correctly recognises the underlying 7.1-channel Dolby TrueHD mix – and then brings the amp's considerable power to bear on the dynamic and expansive sound design. All channels are engaged, effects steered with an impressive tonal balance. It's also responsive to sudden changes in dynamic range, such as when the peace and quiet of a Sicilian village is shattered by an explosion. The system immediately springs

SPECIFICATIONS

DOLBY ATMOS: No. Dolby TrueHD **DTS:X:** No. DTS-HD Master Audio **THX:** No **MULTICHANNEL INPUT:** No **MULTICHANNEL PRE-OUT:** Yes. 7.1-channel phono and XLR **MULTIROOM:** No **AV INPUTS:** Yes. 2 x digital audio (1 x optical and 1 x coaxial); 2 x analogue audio **HDMI:** Yes. 3 x 2.0 and 3 x 1.4 inputs; 1 x 2.0 output; 1 x 1.4 output **VIDEO UPSCALING:** No **COMPONENT VIDEO:** No **DIMENSIONS:** 430(w) x 328(d) x 108(h)mm **WEIGHT:** 4.6kg

FEATURES: Remote control; onscreen display; optional Bluetooth dongle; EQFlex auto room correction; IR input and output; 12V trigger; dimmer control; USB port for firmware updates; RS-232 serial connector

PARTNER WITH



IOTA AVXPI: Awarded a Recommended badge in HCC #293, IOTA's seven-channel power amplifier (with XLR hookup) sells for a standalone price of £1,050. The Class AB amp design exhibits excellent dynamic punch and responsiveness.

to life, energising all the speakers and bringing the subwoofer in for added depth.

In other scenes the AVX1 ensures all *Aquaman*'s bass (and there's a lot of it...) remains tight and powerful, giving every punch and kick a visceral impact. Surrounds are constantly in action, especially during the underwater sequences where the processor coordinates its seven channels to create a cohesive soundfield that drowns the viewer in a liquid environment.

Mortal Engines (4K BD) boasts another exceptional Atmos mix that the IOTA distills down to its 7.1 base and then spreads around with aplomb. The huge low-frequency rumble of an enormous moving city is rendered with skill, while the rush of giant harpoons ripping through the room had me ducking. It has a composure and authority that delivers a balanced if exhausting sonic experience.

So the IOTA AVX1 is a very capable and well-priced AV processor that delivers a great 7.1 performance. Yet it feels dated, and not just because there's no Atmos and DTS:X support. In our connected digital age, the limited user interface and lack of streaming features puts it at a clear disadvantage to a similarly priced AV receiver ■

- 1. A central display occupies much of the front panel
- 2. The AVX1 is styled to match IOTA's AVXPI power amplifier
- 3. Three of the processor's HDMI inputs support 4K HDR

HCC VERDICT



IOTA AVX1

→ £700 → www.iotaenterprises.co.uk

WE SAY: You'll struggle to find a cheaper AV processor and the surround sound is excellent, but it's under-specced compared to even an entry-level AVR.



Bargain boxes

Edifier's latest active speaker combi lacks an HDMI ARC connection and looks a little retro, but **Ed Selley** discovers that's all there is to quibble about

The right-hand master speaker provides rear inputs and remote control operation



THE LAST EDIFIER package we looked at was the burly but capable S350DB 2.1 system [HCC #291]. On the face of it, the S3000PRO reviewed here, the company's current stereo flagship offering, looks to be less product for quite a bit more money. But, in reality, the S3000PRO is a more sophisticated beast, comprising a pair of active standmount speakers using a digital crossover acting on Class D amps, claimed to deliver 120W to the speakers' 6.5in aluminium midbass drivers

and 8W to planar ribbon tweeters.

These drivers are made available to a useful selection of inputs. There are optical and coaxial connections but also a high-resolution-capable USB input; balanced XLR and unbalanced phono line inputs; and Bluetooth. The latter

is the latest version (5.0) with aptX support offering improved latency and less data loss.

Nor is this the only wireless aspect to the Edifier pair. The speakers communicate with each other wirelessly via a proprietary system that also detects the distance between the two and adjusts latency to compensate.

The speakers look like traditional stereo standmount models – the dark wooden side cheeks and hefty cabinet are possibly a little too traditional depending on your view. They're well made and the connections on the rear are logically laid out.

A small series of LEDs on the front of the main 'R' speaker denotes the selected input, and a small, solid remote control allows you to select volume and source.

Two better than one

The wireless pairing feature gives you some placement/setup flexibility, but both speakers need a mains supply to work. This immediately makes it a bit more challenging than installing a soundbar, but sonically the Edifier is in a different league to most one-box rivals. Thanks

SPECIFICATIONS

DRIVE UNITS: 2 x 6.5in aluminium midbass drivers; 2 x planar ribbon tweeters
ONBOARD POWER (CLAIMED): 2 x 120W + 2 x 8W
CONNECTIONS: 1 x coaxial digital audio input; 1 x optical digital audio input; 1 x USB; 1 x line input shared between XLR and phono
SEPARATE SUB: No **REMOTE CONTROL:** Yes
DIMENSIONS: 232(w) x 356(h) x 268(d)mm
WEIGHT: 23kg

FEATURES: Wireless syncing between pairs; Hi-Res Audio certified; Bluetooth (5.0) with aptX; digital crossover; 38Hz-20kHz claimed frequency response

to having two separate cabinets, there's a width and scale to the presentation that really helps to bring life to events onscreen. During the first assault by the Tao Tei in *The Great Wall*, the Edifier S3000PRO is in its element, managing to effortlessly convey the scale of the battle while keeping dialogue and fine detail distinct.

At both frequency extremes the system really impresses. Its bass response is absolutely superb, pretty much equalling the S350DB despite the absence of a subwoofer. And as well as depth, there is speed and control – it is one of the few affordable devices I've tested that's capable of handling the grossly overblown bass in the club scene of *Blade II*. Treble details from those clever tweeters are also excellent; Yondu's whistling to control the arrow during his recapture of the ship in *Guardians of the Galaxy Vol 2* is clear, well defined and absolutely free of harshness.

Given a 24-bit/96kHz FLAC of Underworld's *Barbara Barbara, We Face a Shining Future*, the Edifier uses that same superb low-end and sweet treble to produce a big, unflustered, engaging presentation. Tidal streams via aptX Bluetooth are also more than listenable.

If you have to have voice activation, HDMI ARC and other niceties, the Edifier S3000PRO won't compete with some single-chassis competitors, nor look sleek next to your flatscreen TV. In terms of raw performance across film and music, however, these speakers represent astonishing value for money. It's one of the most cleverly implemented active speaker packages I've seen for less than £1,000, and should be on anyone's shortlist for a one-stop system at the price ■

AV INFO

PRODUCT: Active 2.0 wireless speaker system

POSITION: Edifier's current flagship, above S1000DB and R2000DB models

PEERS: KEF LSX; DALI Kubik

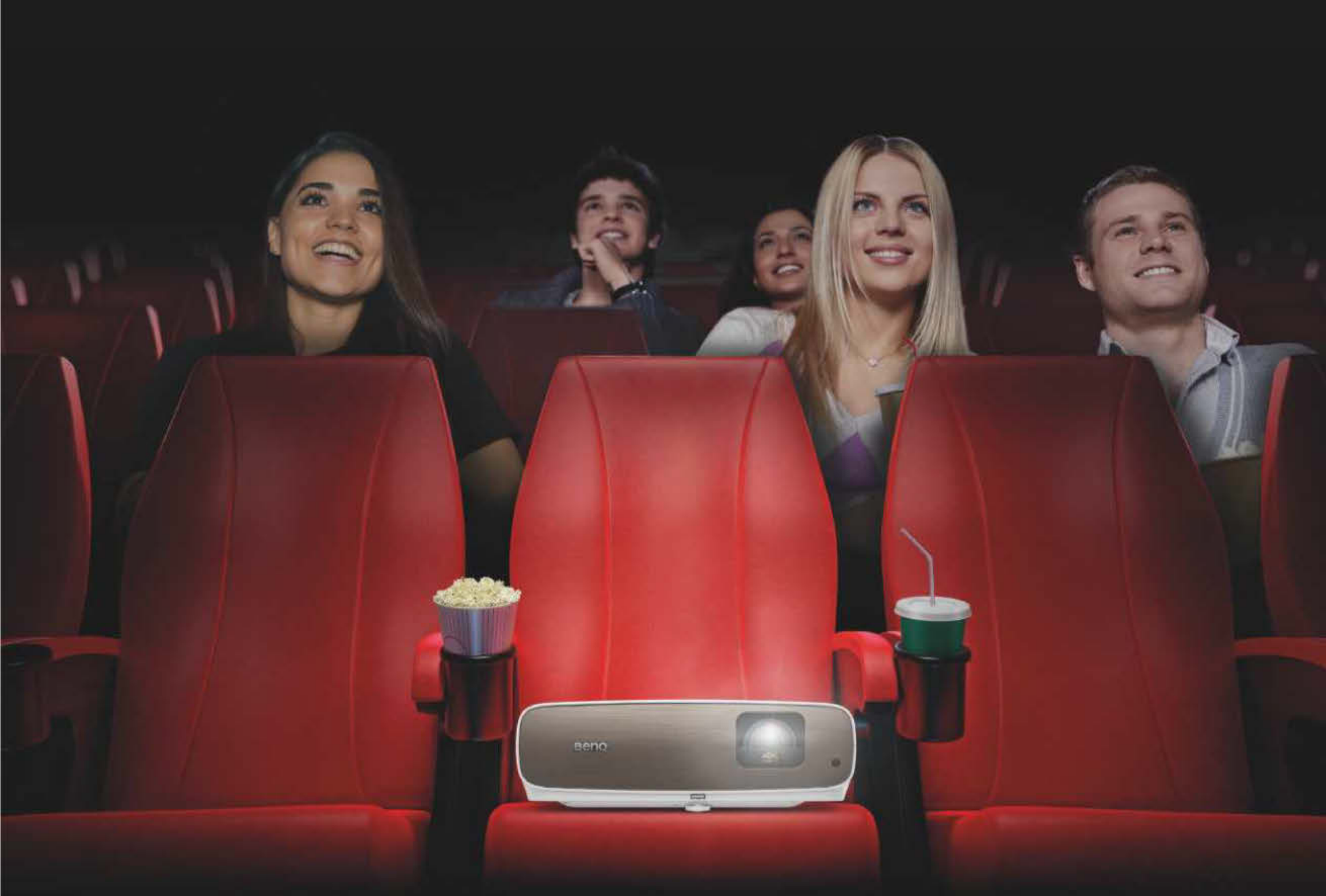
HCC VERDICT



Edifier S3000PRO

→ £590 → www.edifier.com

WE SAY: This active stereo system isn't terribly pretty but is outstanding value for money and performs superbly.



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Audiolab M-DAC nano

Ed Selley adds a pocket-friendly headphone amp/DAC to his on-the-go lifestyle

IF YOU'VE BOUGHT one of the new breed of smartphones with no headphone socket, you might assume that you'll need some wireless Bluetooth earphones to enjoy music, but there is another way. Audiolab's M-DAC nano is the smallest model in the brand's M-DAC range, and is designed to connect to a 'phone or tablet via aptX or AAC Bluetooth. A 3.5mm headphone socket with 64-step volume control then allows you to use your existing wired headphones.

And it does more than that, actually. In addition to aptX and AAC modes, the M-DAC nano also has an 'enhanced mode' that introduces digital filtering and upsampling to improve the signal quality of your tunes.

It's a good piece of industrial design, as small as the name suggests (and only weighing 28g), but solid-feeling. It's supplied with a little pouch with belt clip that works well, plus a wireless Qi charging pad, which



is a neat touch. Battery life is a relatively brief eight hours, and less than that with 'enhanced mode' in use.

Performance is impressive. Using a pair of Audiolab M-EAR 2D earphones, it does

The M-DAC nano measures just 44mm wide

a great job with a nostalgic re-watch of *Jurassic Park*; the T-Rex attack is rich and easy to follow. And the most eye-opening (or ear-opening) aspect is how effective Audiolab's 'enhanced mode' is at boosting the scale and space of the performance – a clever trick with earphones. It doesn't always work as well for music, though. I found the added dimensionality to smaller pieces unwanted – but it's easy to turn it off if you don't like it.

As a surrogate headphone socket, the M-DAC nano is well thought-out and very smartly styled. It should give your wired earphones a new lease of life ■

HCC VERDICT



Audiolab M-DAC nano

→ £150 → www.audiolab.co.uk

WWW.AUDIOTECHNICA.COM/£180

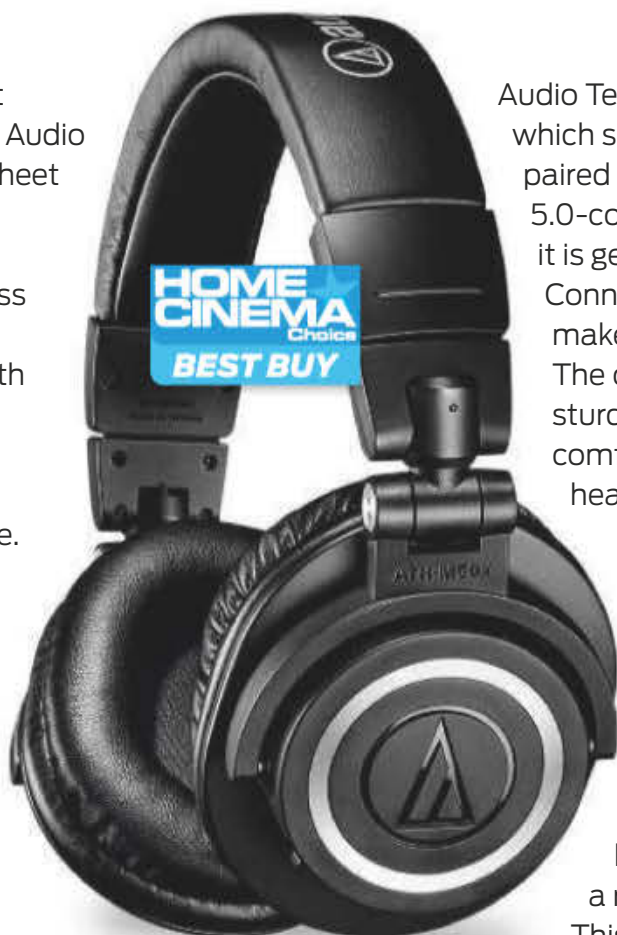
Audio Technica ATH-Mx50BT

Comfort, extended battery life, large drivers and Bluetooth 5.0. **Ed Selley** is impressed

THE MX50BT IS the latest Bluetooth headphone from Audio Technica but isn't a clean-sheet design. Instead, the long-running and popular Mx50 has been adapted to wireless use with the addition of an aptX-capable v5.0 Bluetooth implementation, amplifier and battery, all of which have been added without changing the shape and size. You still get a pair of 45mm drivers in closed-back enclosures, which fold inwards to make them easier to carry.

They also have astonishing battery life.

Battery life is rated at a class-leading 40 hours



Audio Technica claims 40 hours, which seems ridiculous, but paired with a Bluetooth 5.0-compatible phone, it is genuinely achievable. Connection is simple to make and very stable. The cans themselves are sturdy, and provide good comfort via their plush headband and earpads.

And they sound extremely good. With my iPad Pro tablet (Bluetooth 5.0), the brilliantly entertaining *Doko Mien* by Ibibio Sound Machine absolutely hammers along with a real feeling of fun.

This is largely down to the

Mx50BTs being commendably light on their feet and able to keep up with high-tempo music. Yet this deftness of touch isn't at the expense of bass weight; watching *Guardians of the Galaxy Vol 2* on Netflix, the headphones show a great balance of fine detail and useful low-frequency presence. They keep dialogue sounding detailed, and there is tangible space to the presentation for a closed-back design.

When taken as a whole, the Mx50BTs have to be seen as a bit of a bargain. They successfully update a wired design for cable-phobes, and offer superb performance over a stable Bluetooth connection with build quality and comfort thrown in. If you've got £200 for wireless headphones, look here ■

HCC VERDICT



Audio Technica Mx50BT

→ £180 → www.audiotechnica.com

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REL
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Echo lacks soul

A streaming Amazon Echo amplifier with TV hookup potential may sound like a good idea, but **Steve May** isn't buying



AMAZON WANTS ALEXA to be taken seriously. The brand's active smart speakers, from its cute Dot to the full-size Echo Plus, may have sold by the truck-load, but it also wants to carve a niche for itself in the more esoteric waters of system hi-fi.

Enter the Echo Link Amp, a new-age mini system for streaming audio fans. Just add traditional passive speakers, configure with the usual Alexa app, and you're in the music business. A step-down Echo Link (£190) does away with onboard amplification, to be used as a streaming pre-amp.

Measuring only 8.6cm high and less than 25cm wide, the system is compact enough to easily fit on shelf-space beneath your TV. Ergo, using its optical input, it can double as a TV sound system. Soundbars are sooooo last season.

Select your source

The Echo Link Amp design is certainly good. The finish is matt black with a rolled edge to the fascia, and it looks slick.

To the rear is a pair of substantial loudspeaker binding posts able to take banana

plugs as well as bare wire. There are also coaxial and optical digital inputs/outputs, plus stereo analogue phono in/out. However, the Echo Link Amp can only support one component at a time – a source hierarchy, which runs through network streaming, Bluetooth (4.0),

optical, coaxial and analogue, means you'll need to switch off a source higher up the chain, or even unplug it, to access one below it.

While the system offers a dedicated subwoofer pre-out, Amazon's own Echo Sub [see HCC #293] isn't compatible.

On top of its physical inputs, the Echo Link Amp can connect wirelessly over dual-band Wi-Fi and Bluetooth, but there's no support for aptX. An Ethernet jack provides a wired hookup to your router.

With no onboard microphone, you don't get recognition of any spoken commands, or any of the usual Alexa banter; the Echo Link Amp needs to be partnered with another Alexa component for voice control. And there are other limits to general functionality. It can't (easily) be used to stream music from files you might have on a NAS, for example, and there's no USB input for playback of music from a flash drive.

The setup routine is much like any other Alexa product. Largely plug-and-play, but with some provision to adjust bass, mid and treble if required. It doesn't come with a remote control, which is hardly surprising.

Better the Devil...

Those upgrading Alexa audio from a one-box Echo Plus speaker will be impressed with this amp's two-channel presentation, which is spatially wide and coherent. The jangle rock of *Friend of the Devil*, by The Grateful Dead, sounds fresh and lively; guitars are picked wide, with a nicely centred vocal.

The DAC, according to Amazon, is significantly more sophisticated than what you'll find in an Echo Dot. It's 24-bit/192kHz capable, while the optical/coaxial inputs are limited to 96kHz.

SPECIFICATIONS

AMPLIFICATION (CLAIMED): 2 x 60W

CONNECTIONS: Digital optical audio input/output; digital coaxial audio input/output; analogue phono input/output; subwoofer output; 3.5mm headphone output; Ethernet jack **DIMENSIONS:** 86(h) x 217(w) x 242(d)mm **WEIGHT:** 2.2kg

FEATURES: Dual-band Wi-Fi; Bluetooth 4.0; automatic input switching; Amazon Alexa integration via external device; Alexa app; supported music services include Amazon Music Unlimited, Spotify Premium, Apple Music and Deezer

The volume knob dominates the front panel

Comparing the same playlist via Bluetooth streaming and Wi-Fi is telling. The system is at its best over Wi-Fi; there's far greater energy and detail in its performance. However the slightly awkward control mechanism, mandated by going through a partnered voice-enabled Alexa component, means that more often than not Bluetooth is the easiest streaming option.

The internal power plant is rated at 2 x 60W into 8 ohms, but doesn't really sound that brawny, and there's precious little bass extension.

This lack of attack becomes particularly telling when the Echo Link Amp is used with film and TV feeds, taking an optical digital output from a flatscreen.

When Han and Qi'ra make their escape on a stolen speeder with stolen hyperfuel (*Solo: A Star Wars Story*, Sky Cinema), high-speed collisions lack impact. The Echo Link Amp almost seems to flatten out the speed bumps.

This rather undynamic trait becomes even more apparent during the opening of *Baby Driver* (Sky Cinema). *Bellbottoms* by the Jon Spencer Blues Explosion belts out, but the amplifier has no visceral kick.

Contained nature

Despite its cool form factor, the Amazon Echo Link Amp doesn't quite impress enough. While the DAC may well have virtues, sonic enjoyment is hampered by a somewhat compressed, contained nature. If you want a premium streaming audio system, there are better options, be it an upmarket all-in-one or standard stereo amplifier coupled with an Amazon Echo Dot ■

AV INFO

PRODUCT:

Alexa-compatible streaming audio stereo system

POSITION:

Above the power-free Amazon Echo Link

PEERS:

Sonos Connect: Amp
Yamaha R-N402D

HCC VERDICT



Amazon Echo Link Amp

→ £290 → www.amazon.co.uk

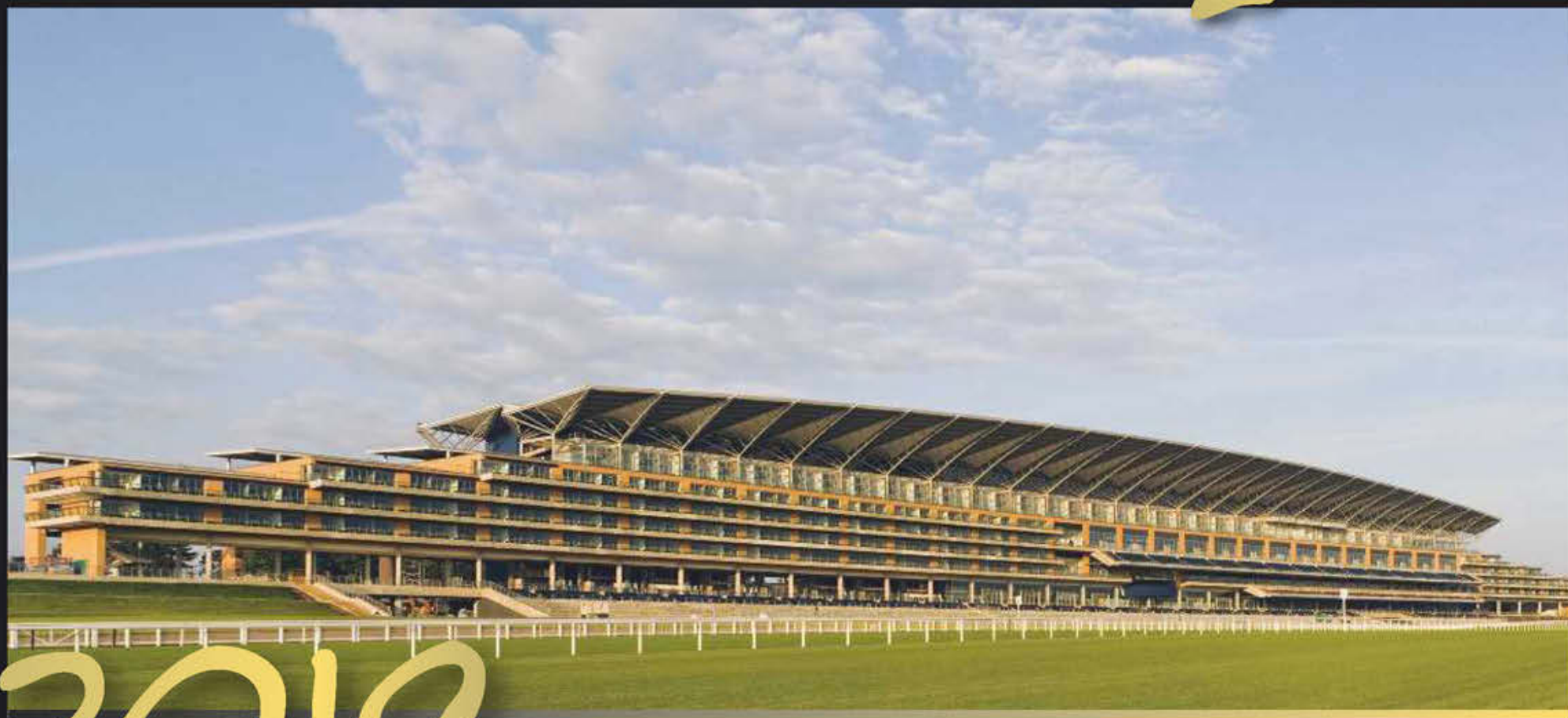
WE SAY: Stereophonic imaging and vocal clarity are good, but a deficit of dynamics makes this a rare misstep from the Amazon brains trust.

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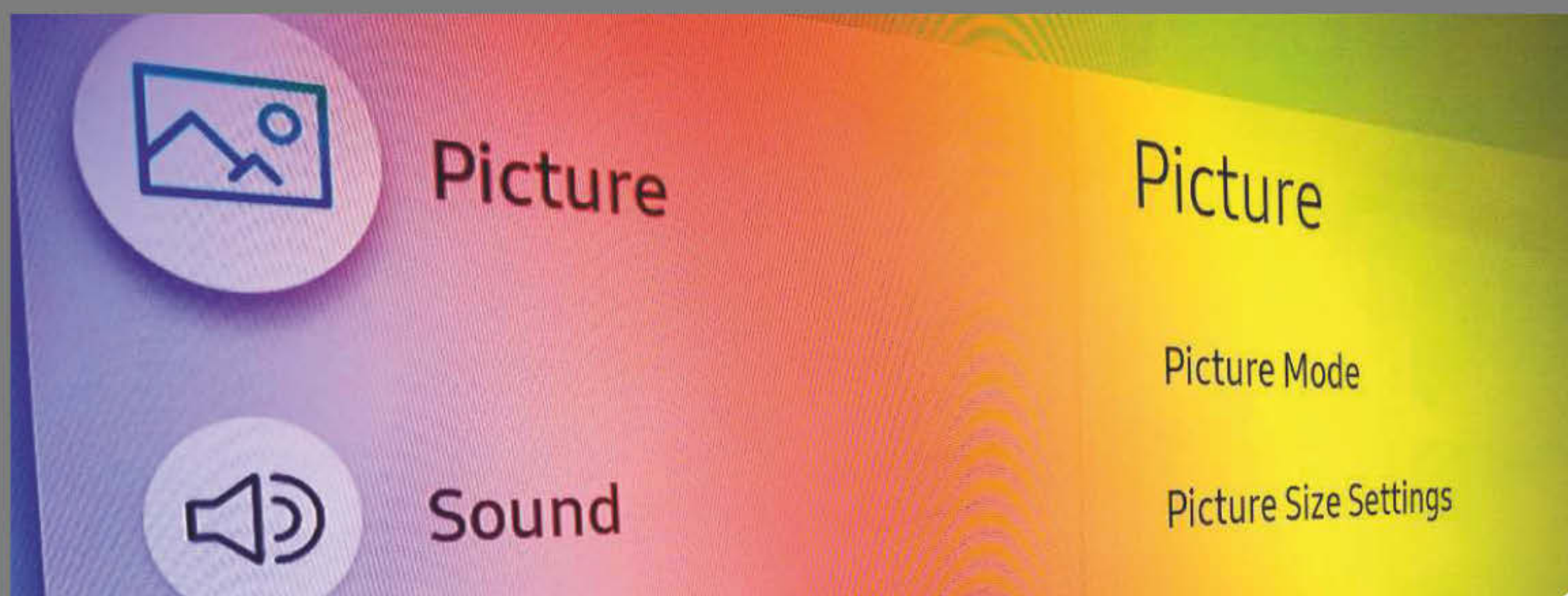
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Digital Copy

After an evening spent changing colour settings, updating firmware and getting lost in picture menus, **Mark Craven** has come to think he doesn't like HDMI very much

'**NEVER GET OUT** of the boat,' intones Martin Sheen in *Apocalypse Now*. To that I'll add: 'Never switch your HDMI inputs unless you want to spend possibly hours fiddling with your AV setup trying to work out what's gone wrong.' Okay, that's not as catchy, but then I'm not an Oscar-nominated screenwriter.

Whining about HDMI is hardly new. It's been a constant among tech enthusiasts for years, often due to the frequently changing specification and the labelling system of HDMI cables, right down to grumbling about some products that make connecting via HDMI a finger-bending act of dexterity. And now 4K HDR has added another level of friction.

What happened is this: I switched the HDMI connection between an Oppo Blu-ray player and a Samsung QLED TV from HDMI 1 to HDMI 2 on the latter, and all hell broke loose. Actually, that's not true. **I'd missed something simple, but as I'm not Mr HDMI, didn't realise.**

Presented with *Alien* 4K looking downright weird, with luminous blues and clipped colours, I did the obvious thing and assumed HDR10+ was to blame, this being the first HDR10+ disc I'd run through the Oppo/Samsung combi. So first I checked both were up-to-date firmware wise (they were), and then I scratched my head a bit. I then held down the 'info' key on the UDP-203 (top tip: a single press calls up basic info, a long press reveals further details), and had a shufti.

The deck noted the disc was encoded with HDR10+, and that was being output (the Samsung TV flagged this too). But I also noticed it was sending it at 12-bit, with 4:4:4 chroma sub-sampling.

Confession: I don't remember the last time I actually paid proper attention to the colour depth

and sub-sampling of my Oppo player, as I have it set to Auto precisely so I don't have to think about it.

Now, at this point I should have realised that as the player/TV had been working absolutely fine the day before, there was nothing mysterious here. But I was desperate to watch William Hurt in agony and I wasn't thinking straight, so I switched the Oppo to 10-bit, 4:2:0, to match the disc format. This didn't change a thing, but I then discovered that even commanding my player to output at this level didn't matter (not entirely). The Oppo and the Samsung did their HDMI data-swapping thing, and the Oppo output at 10-bit, 4:2:2. Confused? Don't worry. No one understands this stuff.

At this point I gave up hope of watching Sigourney Weaver kick E.T.'s backside and spent most of the evening methodically changing output parameters on the UDP-203 to see if it solved the colour problem. I quickly discovered there are quite a lot of possible combinations...

Finally I did the thing I should have done first, and checked the TV. And there, in the External Device Management menu, was the HDMI UHD Colour tool. On HDMI 1, it was turned on, as it had been since day one. On HDMI 2, the input I was now using after a soundbar had been and gone and I'd put my cable in the wrong socket, it was off.

I turned it on. Nothing changed. I remembered that HDMI is idiotic and rebooted both player and TV. *Et voilà*, *Alien* looked right and it was 11.15pm and time to go to bed.

Lessons learned? If your AV setup is working fine, don't unplug anything, ever. And if you do, do it early in the day so there's time to rectify it and still watch a movie ■

*Do you enjoy tweaking your AV gear?
Let us know: email letters@homecinemachoice.com*

Mark Craven eventually watched *Alien* 4K at 10am while eating a bowl of Weetabix, which wasn't what he had in mind when the disc arrived





Point of View

Richard Stevenson reckons that premium AV and an award-winning flick isn't enough to ensure a first-rate home cinema experience. You also need to 'get into the zone'...

MY FORMATIVE HOME cinema years were weaned on a diet of classic and cult fiction, mostly of the science variety. Around 1985 was pretty pivotal. I managed to link an old VCR to a stereo amp by splitting the audio wiring out of a Scart lead and soldering on some RCAs. I acquired a giant Fresnel lens and fashioned it into a projector using a Bush 14in CRT TV, a cardboard box and enough sticky tape to make *Blue Peter* bankrupt.

First movie to try? *Blade Runner*. I rented the VHS and accompanied it with a four pack of Hofmeister and a bag of Hedgehog Flavoured Crisps. I had already seen the movie when it came out in 1982, but back then we had to wait two years or more for the home release. Imagine that, kids.

What a film! Definitive Ridley Scott SF noir at its best and, even discounting my overwhelming teen crush on both Sean Young's Rachel and Daryl Hannah's Pris, watching the film at home just blew me away. It was loud if a little hissy, and **the make-shift projector managed a rather blurry 40in picture** with a vignette mask around the edges and colour so bad it was almost black-and-white. But that evening was one of my very best home entertainment experiences to date.

Fast-forward over 30 years. *Blade Runner 2049* (pictured) on 4K UHD, four 'craft' beers and a bag of unsalted, cholesterol-busting, organic mixed nuts. The picture via a 65in 4K HDR TV, the audio from a processor that costs more than my first four cars put together, and 7kW of uncompressed, object-mapped 13.2-channel sound.

Just shy of three hours later, I was... disappointed.

I am going to say 'In my honest opinion' to save some of the flaming, but I found the film too slow, too long, too noir pretentious for its own good and too derivative of the original. When the nuts ran out

at an hour-and-a-half, I was chewing my own thumb to stay awake, and Mrs S was producing a gentle background snore long before that. While under the aegis of that 'IMHO', I thought *Skyfall* was drivel too; worst Bond movie ever.

I digress. Given the wealth of positive reviews on *Blade Runner 2049*, just what is it that makes not only a good movie but a great cinema experience? It's clearly not just the quality of your home cinema kit, or ...2049 would have shined and the original fallen flat on its squeaky tape hubs. The content is a major factor, but how many movies have you loved and others hated? The two above for starters I suspect.

It boils down to the personal experience; the timing, the location, the situation, the ambience and your mood. I could watch my favourite film (I'm not even going there...) in a mass-screen multiplex and hate it thanks to parking issues, outrageous comestibles pricing, poor sound quality and, well, other people. Actually, I saw *Skyfall* in a multiplex...

Home cinema is where it's at then, so what's with ...2049? Timing at the end of a long week, starting too late in the day, craft beer that tasted like pomegranate and choosing the evening's movie in haste? All yes. I had managed to undermine my own home cinema event.

To really appreciate a movie, you need to give yourself over to it, eradicate distractions and let it envelop you. I am not suggesting an hour in the bath with scented candles before firing up your AV receiver, but getting into the zone, having the right mindset and being there in the moment is going to make any film much more entertaining. So that is trendy mindfulness applied to home cinema – you heard it here first ■

*Do you have a pre-movie ritual?
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Richard Stevenson refuses to divulge his favourite film, but we have a hunch it's either *The Fifth Element* or *The Care Bears Movie*



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Film Fanatic

Physical media sales are spiralling downwards, but a recent episode of *Game of Thrones* reminds **Anton van Beek** why he's still keeping faith in the format

THE DEATH OF physical media has been a topic of conversation for so long now that it's easy for home cinema fans to believe we'll all be watching movies on discs until the day we die. Sadly, the reality is that things aren't great for silver platters right now. As revealed elsewhere in this issue, the latest annual report from the Motion Picture Association of America cites a 48 per cent global drop in spending on DVDs/Blu-rays between 2014 and 2018.

Obviously the rise of SVOD platforms like Netflix and Amazon Prime Video has played a massive part in this state of affairs, and **you would have to be an optimist not to expect the launch of Disney+ to land another blow to disc sales.**

In other ways, however, it has become something of a self-fulfilling prophecy, with certain studios and distributors showing less and less interest in physical releases that fall outside of specific demographic interests. Five years ago it would have seemed very strange that a critically acclaimed, BAFTA and Academy Award-nominated film like *Can You Ever Forgive Me?* would not be getting a Blu-ray release from Twentieth Century Fox. But today the lack of such a disc doesn't even cause me to raise an eyebrow.

Who cares if a studio isn't giving you the option of going out to buy a film on Ultra HD Blu-ray (or even plain old 1080p Blu-ray), when it's available to buy as a Digital Download or through a streaming platform from your living room sofa? Well, I do, obviously, and I suspect many of you too – but we're very much in the minority.

For plenty of people the availability of Full HD and 4K versions isn't even an issue. Convenience is all that matters, and quality doesn't get much of a look-in. This is why I still know people with fancy new

TVs doggedly persisting in watching the SD versions of channels that are also available in HD...

The fog of war

On the other hand, you don't have to look very far for proof that physical media is still the premium delivery mechanism for video home entertainment.

Tens of thousands of people (particularly in the US) recently took to social media following the broadcast of *The Long Night*, the third episode of the final season of *Game of Thrones*. Why? Because the long-awaited battle between the living and the dead was so dark they couldn't make out what was happening.

The majority of complainants believed the problem lay squarely at the feet of the programme makers – and it's true that some of the visibility issues were indeed a conscious aesthetic decision. As the episode's cinematographer Fabien Wagner told *Wired UK* in an interview shortly after the episode aired, 'Everything we wanted people to see is there.'

However, it never seems to occur that we, the consumers, might also be to blame. I would expect that some of these *Game of Thrones* addicts were watching the show on smallscale devices or in brightly-lit rooms. Or that their TVs are inaccurately setup, or using inadequate default picture settings. And heaven forbid the possibility that TV providers could be throttling the bandwidth to the point that the picture contained more digital artefacts than genuine picture details.

As far as arguments for physical media go, the Battle of Winterfell ranks up there with the very best – I can't wait to see it depicted in its full glory when the Blu-ray release rolls around ■

*Are you hopeful about the future of physical media?
Let us know: email letters@homecinemachoice.com*

Anton van Beek believes anybody who watches new episodes of *Game of Thrones* on a tablet should be made to do the Walk of Shame



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Feedback

Got an axe to grind? Need to comment on current tech? Want to share your knowledge with our readers? **Team HCC** is here to help

Two-channel hero

In *HCC #298*, in answer to a question from Nigel Levitt about the best amplifier to provide extra channels for Atmos 7.1.4, Mark Craven indicated there were no sub-£200 stereo amps with a Home Theatre bypass.

I would like to recommend the Pioneer A-30, which has this (Power Amp Direct) and can be obtained for just over £200. I use one partnered with the Pioneer SC-LX801 in my Atmos 7.2.4 setup. Works great!

Nikolas Hill

Mark Craven replies: I said it was 'unlikely' you'd find anything with a Home Theatre Bypass option (or Power Amp Direct mode, as Pioneer calls it) around that price, and I am happy to have been proved wrong! If anyone has other suggestions for budget stereo amps that can be easily added to an AVR setup for extra channels, let us know.

Digital copy disaster

Just an opinion, but is anyone else annoyed at digital copies of Blu-ray movies? They are so infuriating.

If I'd like to watch a movie on my iPad, well the fun starts. So far I have Google Play,



Pioneer's 2 x 40W A-30 stereo amplifier can run in Power Direct Mode, disabling its own tone/volume control

Flixster, iTunes and Sony accounts, I'm sure I may have another somewhere but I probably lost the will to live and just threw the digital code away.

Why can I not have one app that plays all my films, instead of many that just take up space on my iPad? What's worse is that *Fantastic Beasts and Where to Find Them* is on Flixster, but the sequel is on Google Play. When I ask, I get the usual dribble about regions and yadda yadda yadda. Why is it so complicated to let people choose their own app or software to play their movies? After all, I buy my region code, and all the movies are available in my

local shops. Who would have thought that not only do we have a streaming war, but an app war too, and the consumer wants neither.

Michael O'Grady, Ireland

Mark Craven replies: The issue of DVD and Blu-ray buyers making digital copies of their purchases with various forms of PC software was, studios hoped, over in 2011, when the UltraViolet (UV) digital locker system was launched by the DECE (Digital Entertainment Content Ecosystem). Supporting studios included Universal, Sony Pictures, Warner Bros., Paramount and Twentieth Century Fox.

Indy above all

Mark Craven talks about films that transcend genres [*Digital Copy*, *HCC #298*] with *Alien* and *Jaws* as his examples. To those I'd like to add *Raiders of the Lost Ark*, which you included in your action movie roundup. It's certainly an action movie, but is also a thriller, romance and adventure yarn, and, in my opinion, has never been bettered.

As for adding Dolby Atmos mixes to classic movies, I'm kind of on the fence here. I don't like the general idea of it, but wouldn't want to comment on a *Jaws* Dolby Atmos soundtrack until after I'd heard it...

Adam Chester, via Facebook

Mark Craven replies: Perhaps *Jaws*, with its underwater scenes and fabulous score, could work well in Atmos? But the remix would need to utilise the existing sound design – and definitely not all-new effects.



Raiders of the Lost Ark: an adventure/thriller/romance/action yarn in one

In theory, it seemed a smart idea, giving you legal digital access to movies you've already bought physically for viewing on other devices. In practice, it's been a bit of a car crash and confusing for consumers, because UltraViolet acts simply as a digital rights library, while third-party services – primarily Flixster Video in the UK – handle the streaming/download side.

It's been years since I had a UV account so, after reading your letter, I redeemed the UltraViolet 'digital copy' of *Blade Runner 2049* – the insert in the Blu-ray release pointed me in the direction of Sony Pictures' website, where I had to create an account. I could then redeem the title and link it to an UltraViolet account, which I also had to create. Redeeming Warner Bros' *The Meg*, on the other hand, required a Flixster Video account. At least once I'd set this up the magic of UltraViolet meant my *Blade Runner 2049* copy was already sitting there. Still, two movies in and I've already created three accounts...

Flixster Video has closed down in the US and no longer allows playback of digital copies there; I wouldn't be surprised if it ceased operations in the UK too – especially as UltraViolet is itself shutting down at the end of July this year.

However, the collapse of UltraViolet isn't the end of the digital copy system. The reason for its closure is that other services have taken a share of the market, including Disney's Movies Anywhere, and Apple iTunes. This and 'other market factors' are behind UltraViolet's decision to discontinue, it says.

And the app overload problem you're experiencing is because studios are already lining up for a post UltraViolet future.

My freshly redeemed *Blade Runner 2049* and *The Meg* are viewable via Flixster and should stay there once UltraViolet closes. 'In most cases, your movies and TV shows will be available via the retailers linked to your UltraViolet library,' says the company. I'll be keeping an eye out.

Aquaman Atmos bug?

Have you, or any of your readers, experienced problems with the Dolby Atmos track on the *Aquaman* Blu-ray release? To be precise, I am referring to the standard BD platter which is included with the 3D version of the movie, but I presume that this is identical to the standalone BD release.

At various points during the movie, the sound breaks up, causing an unpleasant 'stuttering' effect. It first occurs during the opening storm sequence (Chapter 1), and then again during Aquaman's encounter with the 'bikers' in the bar (Chapter 3). There may be other incidences, but I haven't checked the entire movie. My player is a Samsung UBD-K8500, but the problem is reproducible on another Samsung model and also on a

★ Star Letter...

Time to give K a KO

I read Jon Thompson's article on 2K and 4K resolution [*In The Mix*, HCC #298] with interest, as for a long time I was frustrated at the fact major studios were still producing big films in 2K. However, ever since watching the fascinating videos on cinema resolution by Steve Yedlin, director of photography for *Star Wars: The Last Jedi* and *San Andreas*, I've been persuaded to view the 'K' figure at which a film has been shot/mastered at – whether it be 2K, 4K or beyond – as close to irrelevant.

By using illustrated examples of footage he's shot using a variety of cameras and formats at various resolutions, Yedlin proves that's 'there's almost no, or perhaps no, perceptual difference [between 2K and 4K] at the size that we actually view this [content] for cinema'. He adds that, 'Advertising may have conditioned us to associate the word "resolution" with an expectation for perceived sharpness and clarity but we can see that such a correlation is not supported by the facts.'

Of course, many of us have experienced a perceived uptick in clarity when viewing so-called 'native 4K' footage on our screens (or local cinema), but one of the main purposes of Yedlin's project here is to show that this perceived increase isn't related to resolution but rather scaling algorithms, sharpening and advantages in other areas of technology irrespective of the number of pixels (something that's now used as a marketing tool to up-sell TVs). As he says, when it comes to the point of pixel visibility for the human eye at normal viewing distances, 'there's got to be a limit, and when we went from SD to HD we actually hit that limit'.

In light of all this, I'm not reaching for a normal Blu-ray over a 4K disc – I still reach for the 4K disc. But now at least I know the resolution of the content, whether it be 2K or beyond, is actually largely irrelevant and the benefits I'm seeing are a combination of

other factors, rather than the 'K' figure of the movie or the camera that shot it.

I urge anyone in doubt to watch Steve Yedlin's videos, especially the second instalment [*Camera Resolutions, Part 2*], featuring a forensic-detail level analysis of the topic.

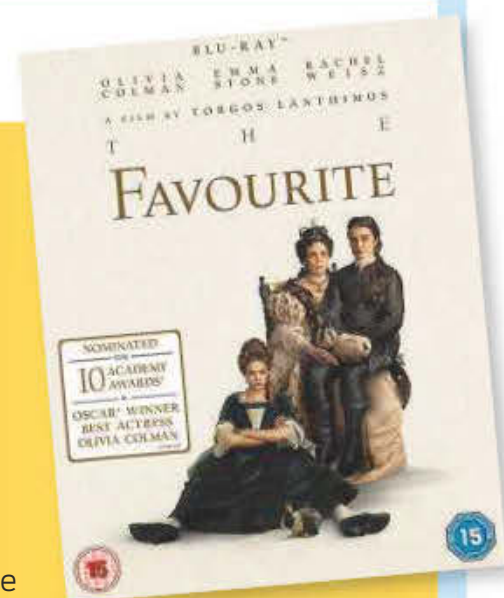
G.L. Norton

Mark Craven replies: Thanks for the letter and pointing me in the direction of Yedlin's videos (the one you referred to can be viewed at the following YouTube link: <https://youtu.be/PaeasJiqLLM>). As you say, it's detailed and interesting – just give yourself an hour to view!

Our perception of image quality is obviously about more than sheer resolution, as my colleague Jon Thompson suggested. Rather, it's the whole package of resolution, contrast, colour range/volume and motion, in addition to shot composition, VFX and production design. And then, as Yedlin emphasises, there's post-production/mastering methods that have an impact, before you even get on to the quality of the encoding process. This explains why having a 4K Blu-ray derived from a 2K source doesn't always equate to an inferior visual experience.

That said, am I prepared to view resolution as irrelevant? No. As the technology allows, it makes sense to capture images at the highest resolution possible. Or on film...

Star letter-writer G.L. grabs a copy of multi-award-winner *The Favourite* on Blu-ray. Set in 18th Century England, this acclaimed comic-drama stars Olivia Coleman as the frail Queen Anne, Rachel Weisz as her trusted confidant Lady Sarah, and Emma Stone as Abigail, the scheming servant planning a return to her aristocratic roots. *The Favourite* is available now on Digital Download, DVD, Blu-ray and VOD courtesy of Twentieth Century Fox Home Entertainment.



Panasonic player, so I'm pretty sure it's the disc that is at fault. But a replacement disc exhibited exactly the same problem.

Sadly (and very annoyingly!), the Dolby Atmos track is absent from the 3D platter, so I was unable to use this as a reference. But the DTS-HD Master Audio tracks on both discs play perfectly well.

I've been unable to check out the 4K Ultra HD version, but you didn't mention any problems in your recent review of the disc. Indeed, you gave the audio a five-star rating.

Are you able to offer any insight into this problem?

Steve Fyles

Anton van Beek replies: While we've experienced audio drop-outs on some past Blu-ray releases, we had no issues with playback of the Atmos mixes on both the 1080p and 4K Blu-ray platters of the *Aquaman* 4K release. And if there was a production-wide hiccup with the sound encoding, I'm certain I'd have read about it

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82 LETTERS

Master and Commander: LFE cannon fodder



on forum/Blu-ray sites. Like you, I'd also assume (but can't be 100 per cent sure) the 1080p version in the 3D package is identical to the standalone version.

Your situation is odd though, as you've had the fault with players from two separate brands. For that I have no answer – so are there any other readers experiencing a similar *Aquaman* problem?

And, yes, it's very annoying that Warner Bros doesn't make *Aquaman*'s (brilliant) Dolby Atmos mix available with the 3D Blu-ray release. Universal is ahead of the rest in this regard – both its recent *Dr. Seuss' The Grinch* and *How to Train Your Dragon: The Hidden World* (see p100) 3D Blu-rays have incorporated Dolby Atmos soundmixes.

Expert appraisal

In response to David Vivian's column [*The Hi-Fi Guy*, HCC #298], I use my home cinema (a room with lots of speakers and electronic gear) for both hi-fi and movies.

Having gone totally 4K with my Arcam AVR850, 65in LG OLED TV and an Oppo UDP player, I am more or less as good as you can get for the movie side of things. My front speakers are DALI Rubicons, with my original DALI Ikons relegated to the rear. I just have this one system for movies and hi-fi and it is totally disc-based, including just about every Super Audio CD available to suit my taste in music. (In my opinion this is still the best-quality audio you can get apart from a few Blu-ray audio concerts such as the *Cream: Farewell Concert* disc).

I listen in 5.1 having no room for any more speakers and have the fronts bi-amped from the Arcam. I have done around three Dirac setups and thought it was all sounding good.

However, thanks to the advice of Allan at [AV retailer] Ideal AV, I recently bought a new

subwoofer to replace my ancient DALI sub.

At about £2,000 the JL Audio E-Sub was not cheap so it took a while to pull the trigger, but as I paid over the electronic money Allan casually said that Manny [Jarnail, JL Audio UK distributor] would deliver and install it. As with all my previous purchases I expected it to be put in place, switched on and that would be it, leaving me to do another Dirac setup. However Manny arrived from London to my house in the Lake District and proceeded to do a major install including a full Dirac setup. He spent nearly four hours doing phase checks and other magic stuff which he comprehensively explained, and modified the audio curve on the Dirac setup after the amp had finished.

He then played his favourite Blu-ray demo movie sequence, *Master and Commander: The Far Side of the World*, where the French fire at the English ship. The sound was incredible and scary and after a few more tweaks to suit my taste of bass intensity he left with me in a state of shock. The system had never sounded as good and the money was well spent. The sub takes over lots of the lower bass and I am now ploughing through my collection of Blu-rays/4K discs to listen to what I had missed.

The moral of this letter is that if you can afford it, getting an expert to set up your gear is well worth the money rather than just opening the boxes and plonking them in place.

I have no connection with Ideal AV or JL Audio.

Barry Wilkinson

Contact us...

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Question:

Chris Pratt voices both Emmet Brickowski and which new character in the film?

Answer:

- A) Sweet Mayhem B) Rex Dangervest
C) Banarnar



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Destroyer

Nicole Kidman stars as an LAPD detective trying to right the wrongs of her past in this edge-of-your-seat crime drama. *Destroyer* is available to

own on Digital Download from May 20, followed by DVD and Blu-ray on May 27 – and thanks to Lionsgate UK we have five Blu-rays up for grabs!

Question:

Destroyer director Karyn Kusama helmed a live-action adaptation of which cartoon?

Answer:

- A) *Æon Flux*
B) *The Flintstones*
C) *Inspector Gadget*



Being Frank: The Chris Sievey Story

Steve Sullivan's funny and moving documentary about maverick musician and funnyman Chris Sievey – and his best-loved comic

creation Frank Sidebottom – is out now on DVD and Blu-ray, courtesy of Altitude Films. To celebrate the release, we have three Blu-ray and poster bundles to give away!

Question:

Chris Sievey was the frontman for which of the following punk bands?

Answer:

- A) The Damned
B) The Freshies
C) The Stooges



Green Book

Winner of the 2018 Academy Award for Best Picture, this heart-warming true story starring Viggo Mortensen and Mahershala Ali will be available to own on Digital

Download from May 25, followed by DVD and Blu-ray from June 10, courtesy of Entertainment One Ltd. To mark the release we have five *Green Book* Blu-rays to be won!

Question:

Green Book director Peter Farrelly helmed which of these 1994 comedy hits?

Answer:

- A) *Ace Ventura: Pet Detective*
B) *Bullets Over Broadway*
C) *Dumb and Dumber*

To enter any of the above competitions go to www.homecinemachoice.com/competitions

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Certified: AV-Holic!

With help from his movie-mad father, *HCC* reader **Ru'Maan** set up a projector/Atmos den in a loft extension. Now the whole family is enjoying films, music and *FIFA*...



The front L/R speakers are driven by Denon monoblock amplifiers

Welcome to the AV-Holics Hall of Fame – introduce yourself!

I'm Ru'Maan and I'm a 21-year-old law student (previously a Maplin store manager).

How long have you been into home cinema, and why did you decide to set up your current cinema room?

I've been into home cinema since I was about 14 years old. My dad's a huge AV-Holic and when I was younger I always looked forward to when he was out of the house so I could watch movies on the bigscreen. He used to have a 200in screen and JBL THX speakers all round.

I love the bigscreen, and I love being able to pause the movie whenever I need a toilet break! Once we moved into the house, we had a loft extension planned.

What kit is in your current cinema setup?

I went for a Dolby Atmos system with four ceiling speakers. The surround speakers are KEF Eggs – I chose these as they are extremely versatile and can be mounted in a variety of ways, and the ceiling models are from JBL. I run a pair of Bowers & Wilkins 803 speakers for the front left/right channels, which I bought with my first student loan... These go through a pair of Denon Class A monoblock amplifiers,

and I have a Pioneer LX59 AVR to run the surround, ceiling speakers and the centre – before I got this I was using an older Pioneer receiver that couldn't process the eleven channels.

These photos show my previous JVC DLA-X30 3D projector, but it's recently been replaced by an Optoma UHD65.

Tucked away in the corner of the room is a KEF subwoofer which packs just about enough punch. My sources are an Apple TV 4th Gen, Amazon Fire, Sky box and a PS4 all running through an HDMI splitter, feeding the projector. I have a separate 200Mbps internet connection with a Netgear Nighthawk router, therefore I've managed to avoid any buffering problems.



A loft extension gave our AV-Holic the bigscreen experience he always wanted

My hi-fi runs through an Audiolab 8200CDQ player/pre-amp, and I have with it a Pioneer N50A streamer. I also have a Linn Sondek, but I'm still to find a place for it.

The whole system is controlled via a Logitech Harmony Elite remote and hub. It's a must for all AV enthusiasts. One remote does the job of around fifteen.

What was the last thing you added to your setup?

I took the plunge into 4K with the Optoma UHD65! The picture quality is sensational.

Any upgrades on the horizon?

To be honest I'm really happy with the whole system. The only thing I'd think about buying



The B&W 803 speakers are Ru'Maan's favourite

now would be a pair of Bowers & Wilkins 802Ds, but that's years away...

Did you get any help from professionals when fitting out your system?

We got roofers in to do the structural building work, and as soon as they had the place air- and water-tight I took over. My dad and I did all the work ourselves, from insulation



The system mixes KEF Eggs and JBL in-ceiling units for the surround/height channels

and boarding out, to all the wiring and plumbing. I made a small flat above the house, with a bedroom in one end, a bathroom in the other, and the 'cinema lounge' in the middle. I specifically wanted to do the insulation myself to ensure proper soundproofing. So far I've only had two noise complaints from the neighbours!

I put LightwaveRF lighting in to create specific moods, and ceiling sockets for the projector and motorised screen. There's almost 30 sockets in this one room – five of them on a separate ring main just for my hi-fi, to avoid interference from the PC and fridge. I installed smart sockets which link up to my CCTV so the lights turn on when I get visitors in the house.

What's your favourite bit of kit and why?

It has to be the Bowers & Wilkins 803 speakers. The bass extension is unbelievable, and they are so transparent. They are also a physical thing of beauty. I love how curved they are! I don't even use the subwoofer with my hi-fi setup, the 803s in stereo are sensational on their own.

What movies/discs do you use to show off your system?

My fave demo disc has always been *T2: Judgment Day*, or the bank robbery scene in *The Dark Knight*. To show off the projector, there's a Blu-ray called *Samsara* which has all sorts of HD scenes from around the world. Even though it's only 1080p, it's probably the best picture I've ever seen. I'd recommend it to anyone who wants to show off their projector.

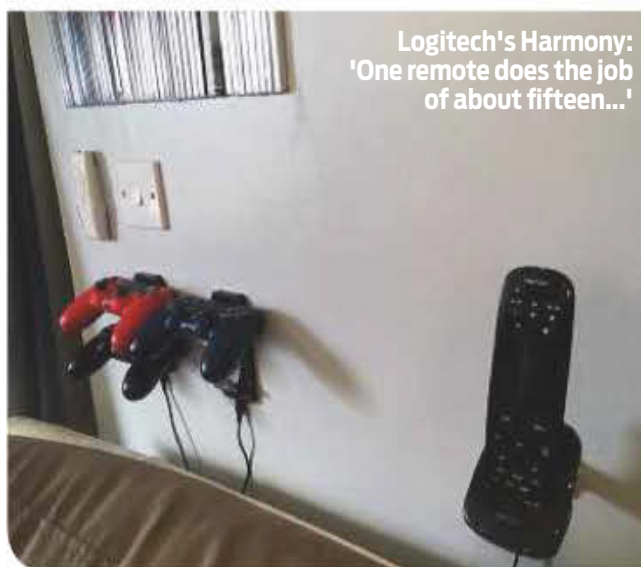
The best Dolby Atmos soundtrack is the opening scene in *Mad Max: Fury Road*, that's my favourite demo disc at the moment.

And what are your Top 5 favourite flicks?

The Godfather (the whole epic), *Reservoir Dogs*, *Shawshank Redemption*, *Pulp Fiction*, and *The Girl With the Dragon Tattoo*.



The JVC projector has now been replaced by an Optoma UHD65 4K model



Logitech's Harmony: 'One remote does the job of about fifteen...'

Do you stream movies/TV from Netflix/Amazon/Sky, etc?

Yes, to be honest I've caught the smart home bug, so my room has two Amazon Echos in, and I often simply tell Alexa to put something

on from Amazon Prime. I have Netflix and Amazon, purely because of the ease. There's also so much content on there that I always find something to watch. It's been difficult as the PS4 doesn't support 4K Amazon content (hence the Fire Stick), other than that though I stream everything else through the console.

Does the cinema setup get a lot of use?

Yes, pretty much every day!

And what do your friends and family think of the cinema room?

They all love it. *FIFA* on the PlayStation 4 is great, so my younger brothers are always up there playing. My friends think it's amazing, and at the weekends, you can't get me or my dad out of the cinema room! ■

Share your cinema system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips...

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch

- movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.
4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. Send a picture of yourself!
6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Now what?

Email your images to **letters@homecinemachoice.com** with the subject heading 'AV-Holic', and provide your answers to the relevant questions above – then we'll be in touch!

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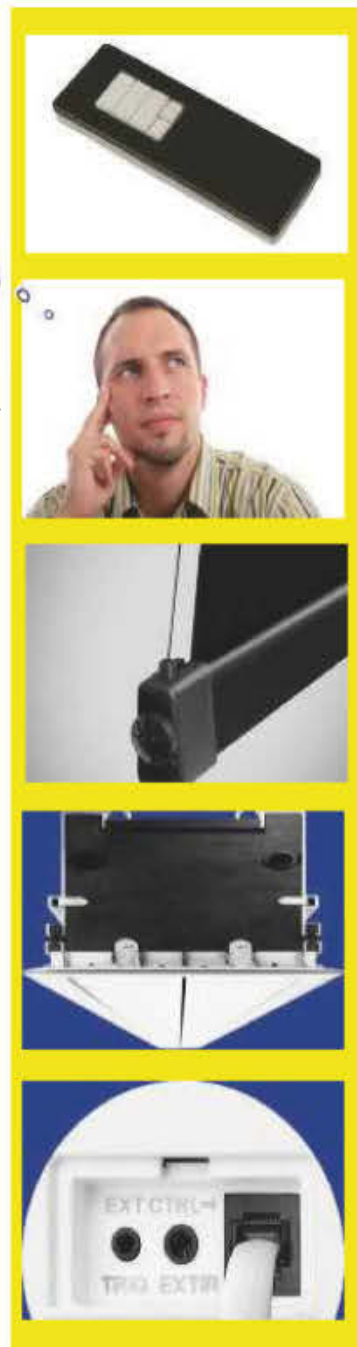
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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **ALIEN** In space no one can hear you scream how good this looks in 4K **THE FAVOURITE** Will this offbeat period drama be one of your fave BDs? **GLASS** M. Night Shyamalan's superhero trilogy comes to a close **ANNIHILATION** Alien invasion dazzles in UHD **HOWARD THE DUCK** The completely quackers blockbuster is back **& MORE!**

More than meets the eye?

Bumblebee → Paramount → Ultra HD Blu-ray & All-region BD

The *Transformers* franchise gets back to its 1980s roots for a prequel featuring the most human story about giant robots you'll ever see. Turn to p92 to see if it still cuts it as a 4K demo disc...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

'Driver! Stop the bus!'



Marvel at Scott's masterpiece

Ripley's battle for survival looks so good in 4K HDR you might not notice all the missing extras



→ ALIEN: 40TH ANNIVERSARY

Viewing Ridley Scott's 1979 space-set terror again, 40 years after it hatched, finds it losing none of its ability to intrigue and repulse.

A little shy of two hours long (whether you view the Theatrical Cut or the 2003 Director's Cut both included on this release, as they have near identical running times), *Alien* is brilliantly paced. The script takes its time to scene-set, first introducing the *Nostromo*'s crew, then packing them off to investigate a distress signal from a nearby moon, all the while developing its characters. Then comes an encounter with an alien egg, but Scott doesn't pull the trigger... yet.

There are plenty of other elements that contribute to *Alien*'s standing as one of the best movies of the twentieth century: the cast, from Sigourney Weaver's as heroine Ripley through to Ian Holm as android Ash, all do fine work; H.R. Giger's production/creature design is a head turner; Jerry Goldsmith's score transitions from eerie throbs to echoey half-melodies. But above all that, it's a film with a clinical script, deft editing and assured direction. And a monster with acid for blood...

Picture: Available in HDR10+ to those with compatible hardware, *Alien*'s new 4K image is extremely satisfying, looking sharp yet still a product of 35mm photography, with its inherent grain still in evidence. Colour saturations are richer than

you might have expected, even if most of the onscreen hues are having to push through the film's dark aesthetic. An exception are the white interiors of the *Nostromo*, which feel suitably enriched here.

There's a boost to image clarity over the Full HD version, which draws your eye even more to the exquisite set design and the image's darkest corners, as does the HDR grading, which is tangible but never feels overplayed. The 2.40:1 picture's wider contrast and excellent shadow detail serves to give Scott's locations more depth and beauty. Lovely stuff.

Audio: There's nothing (entirely) new here – no object-based audio remix to electrify Atmos/DTS:X fans or upset purists. The Director's Cut features the same DTS-HD MA 5.1 mix from the previous *Alien Anthology* BD release, and the Theatrical Cut again comes in 4.1 form (albeit in DTS-HD MA on the 4K disc, while remaining Dolby Digital on 1080p). For those who have never heard *Alien*'s 5.1 presentation, they might be surprised how effective it is. It's

dynamic, packed with ambient details, and strengthened by purposeful LFE.

Extras: Bonus bits are legacy commentary tracks for both Theatrical and Director's Cuts, two isolated scores, and deleted scenes. Considering the wealth of material found on the ...*Anthology* release, plus the potential for new appraisal in light of Scott's *Prometheus* and *Alien: Covenant*, it's hard not to feel short-changed. **MC**

HCC VERDICT

Alien: 40th Anniversary

→ Twentieth Century Fox → Ultra HD Blu-ray & All-region BD → £30

WE SAY: No audio remix and a cursory selection of extras, but the film looks fantastic in 4K HDR.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Vice

EntertainmentOne → Region B BD
£25



Having explored the global financial crisis with 2015's *The Big Short* (and the end credits to his brilliant

2010 action-comedy *The Other Guys*), director Adam McKay returns with a biopic of former US Vice President Dick Cheney. Sadly, *Vice* is a total mess, with McKay's scattershot approach this time resulting in a wildly uneven film with an inflated sense of its own importance. This Blu-ray copes well with the desaturated, grainy visuals, while the DTS-HD MA 5.1 track explodes into life during the Iraq War scenes. A look at a deleted musical number is the pick of the platter's meagre extras. **AvB**



Instant Family

Paramount → All-region BD
£25



Mark Wahlberg reunites with *Daddy's Home* helmer Sean Anders for this comedy-drama based on the director's own experience of adopting children.

Eschewing the sillier gags of that earlier collaboration, *Instant Family* is a more sincere and heart-warming, but no less enjoyable movie. Shot digitally at 2.8K and 3.4K the film lands on Blu-ray with a sharp and intricate 2.40:1 Full HD encode. Unsurprisingly, the dialogue-driven nature makes the disc's DTS-HD MA 7.1 mix a front-heavy affair. That said, it does all it's asked to do very well.

Extras are plentiful. **AvB**



Stan & Ollie

EntertainmentOne → Region B BD
£25



Actors Steve Coogan and John C. Reilly excel as funnymen Stan Laurel and Oliver Hardy in this touching drama about the duo's gruelling 1953 theatre tour of Britain and Ireland.

Along for the ride are their wives Ida (Nina Arianda) and Lucille (Shirley Henderson), who almost steal the film from their male counterparts with their venomous barbs. This HD presentation captures the film's period aesthetic perfectly – although the DTS-HD MA 5.1 mix is nothing to get excited about. Bonuses are disappointingly brief, made worse by missing out on the half-hour Q&A featured on Sony's earlier US Blu-ray. **AvB**



Turning history into her-story

Three women take centre stage in this audacious and witty tale of courtly intrigue

→ THE FAVOURITE

Greek auteur Yorgos Lanthimos's latest film couldn't be further removed from this month's other period movie dealing with real English queens (see p96).

A true three-hander between a trio of astonishing actresses who evidently bring the best out in one another, *The Favourite* stars Olivia Coleman (in Oscar-winning form) as the apparently clueless, gout-ridden Queen Anne, and Rachel Weisz and Emma Stone as the women embroiled in a vicious battle for a place of power in both Anne's court and her bedroom.

As you'd expect from the director who previously gave us such idiosyncratic movies as *Dogtooth*, *The Lobster* and *The Killing of a Sacred Deer*, this raunchy romp is a subversive treat. While it may feature all of the usual visual trappings, *The Favourite* takes endless delight in upending the stuffy traditions of the period drama genre with its wicked wit and odd little anachronisms, while also telling a compelling tale of the lengths people will go to for power.

Picture: *The Favourite* boasts a very distinctive visual style that includes frequent use of fish-eye lenses, and the available light sources (windows and candles) in interior locations. Either of these would be enough to trip up a lesser Full HD encode, which only speaks to the strength of the 1.85:1-framed transfer Fox has delivered with this Blu-ray release.

Although the fish-eye lenses result in unavoidable geometric distortion (plus some clouding in the upper and lower corners of the frame), and there are a handful of instances of banding, the overall quality of the imagery is very strong. Close-ups in particular



demonstrate fine textures in faces and costumes that lend a depth to imagery that could otherwise appear a little flat due to the diffuse lighting and muted blacks.

Audio: The excellent image quality is backed up by a satisfying DTS-HD Master Audio 5.1 track. Outside of a couple of shooting scenes there's not a lot in the way of dynamic positional effects, but environmental cues keep the entire loudspeaker array engaged throughout the film's running time. Dialogue and music are also reproduced flawlessly and integrated into the mix.

Extras: Sadly, there's not much to savour on this disc once the film itself is over. *The Favourite: Unstitching the Costume Drama* (22 minutes) is a fairly standard *Making of...* featurette enlivened by some interesting interviews with key members of the film's cast and crew. Apart from that, the only other bonus features are a quartet of deleted scenes and the trailer. **AvB**



Rachel Weisz (above) replaced Kate Winslet in the role of Lady Sarah

HCC VERDICT

The Favourite

→ Twentieth Century Fox
→ All-region BD → £25

WE SAY: A great Blu-ray presentation of a wonderfully witty film – it's just a shame about the lacklustre extras.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

**DISC
OF THE
MONTH**

Old school buzz

Stupendous HDR colours and an awesome Atmos mix make this nostalgic *Transformers* prequel a joyride worthy of your attention



→ **BUMBLEBEE**

The law of averages suggests that if enough *Transformers* movies are made, eventually a good one will come along by mistake. *Bumblebee* isn't a mistake, but it's definitely a good movie. Michael Bay relinquishes the directing duties in favour of *Kubo and the Two Strings* helmer Travis Knight, and the result is a prequel that relies on story, character, and humour rather than globe-trotting metal mayhem.

The film opens with an epic battle on Cybertron but then deliberately scales down the action,

allowing the relationship between Hailee Steinfeld's Charley and the titular Autobot to take centre stage. Steinfeld shines as the rebellious teenager, and *Bumblebee* is completely endearing thanks to some top-notch VFX.

The plot even makes sense for a change, with *Bumblebee* on the run from Decepticons and sinister government agents. Meanwhile, the 1987 setting allows for plenty of nostalgia, as the filmmakers borrow from the likes of *E.T. the Extra-Terrestrial*, *WarGames*, and *The Breakfast Club*. As a result *Bumblebee* is a big-hearted and fun adventure for all the family, with well-choreographed and coherent action set-pieces.



Angela Bassett and Justin Theroux voice Decepticons Shatter and Dropkick



Fittingly, *Bumblebee* often feels like a throwback to Amblin films of the 1980s



Who knows, it might be the first *Transformers* movie you actually enjoy watching, rather than just using as a demo disc for your mates.

Picture: That said, if you do want to show off the benefits of HDR, then *Bumblebee* makes for a great reference platter. While shot at 3.4K and finished using a 2K DI, the difference between the UHD disc and the regular Blu-ray is astonishing.

There isn't a huge increase in resolution, although the 4K presentation has a smidge more detail in the CG animation. However, in direct comparison the 1080p version looks so dull and insipid that if it didn't contain all the extras, you'd be using the disc as a shiny drinks coaster.

HCC VERDICT

Bumblebee

→ Paramount → Ultra HD Blu-ray & All-region BD → £30

WE SAY: Saturated HDR visuals and seismic Atmos sonics enhance this touching tale of a girl and her robot.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The HDR grade (which includes a Dolby Vision encode in addition to HDR10) is a delight, with the opening shots of Cybertron bursting off the screen. Glowing canyons of yellow light descend into the machine planet, and as the civil war rages the laser fire and explosions tear across the screen with a vivid intensity.

Yet it's the vibrancy and saturation of the colours that really blow your mind, with the Transformers' metal bodies shining like freshly burnished paint jobs. Bumblebee's signature yellow really pops, and the specular highlights as sunlight reflects off chrome bumpers and windshields help bring the robots to life.

Thanks to the increased dynamic range there's greater detail in Bumblebee's blue eyes and the colour is more solid. The blacks retain depth and there's plenty of detail in the shadows, as evidenced during the climatic night-time battle in a naval shipyard. There's a healthy sheen of digital grain, but otherwise this is a pristine transfer with no compression artefacts.

Unusually for a *Transformers* film, *Bumblebee* was released theatrically in a 1.85:1 aspect ratio, perhaps as a nod to its '80s influences. The disc opens the image out slightly to 1.78:1, filling your 4K TV screen with all its HDR robo-goodies.

Audio: *Bumblebee* might be a better film than previous entries in the franchise, but it's still a *Transformers* movie. That means a big and brash soundtrack that relies heavily on prodigious amounts of bass. The robots generate plenty of low-end slam, while gunfire and explosions give the LFE channel a thorough workout.

The Dolby Atmos mix puts all the Autobot action within a hemisphere of sound that produces very precise imaging. There's extensive use of the overheads and effects are often highly directional. At one point a character circles another while speaking, and their voice moves fluidly from one channel to the next.

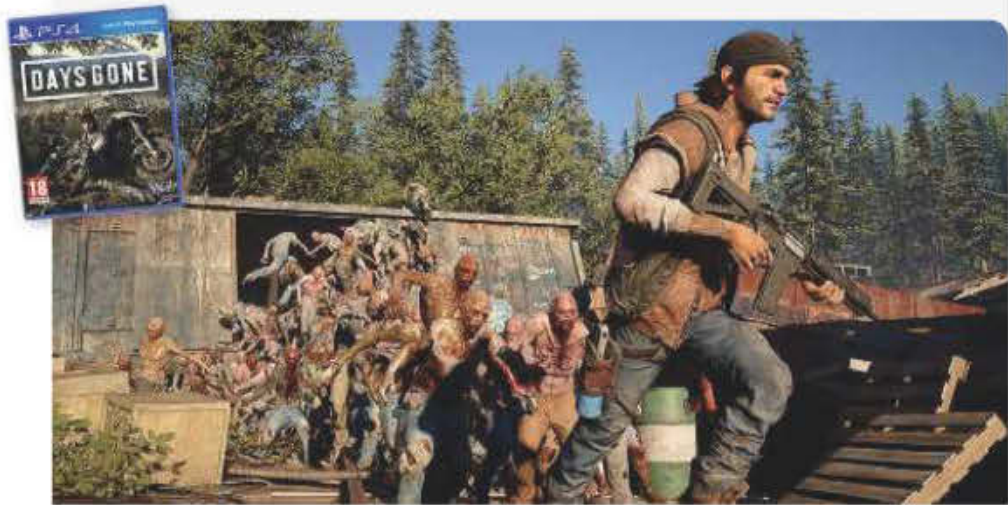
The score is rendered with pleasing clarity, and spread across the front channels to create an effective aural accompaniment. The '80s pop songs that weave their way through the soundtrack sound toe-tappingly good, helping to sell the period setting. Dialogue is prioritised, remaining clear and focused, while bass is used to give the Transformers' voices more depth.

Extras: Paramount includes a solid set of extras on the 1080p disc, headlined by *Bringing Bumblebee to the Big Screen*. This five-part feature runs for nearly 50 minutes (annoyingly there's no 'Play All' option), and covers the genesis of the project, the casting, the retro look of the Transformers, Bumblebee's classic VW Beetle disguise, and the 1980s production design.

Then there's 20 minutes of deleted and extended scenes, including a different opening that suggests the film originally had a less linear narrative. You also get nine minutes of outtakes that mostly involve John Cena ad-libbing; a 'Bee Vision' guide to the Transformers involved in the film's opening battle; and a motion comic that explicitly confirms *Bumblebee* is a prequel to the earlier films. **SW**

Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Days Gone

Sony Interactive Entertainment → PS4 → £60

Ever since *Days Gone* was announced in 2016 thematic similarities ensured that comparisons with upcoming blockbuster sequel *The Last of Us Part 2* were inevitable. However, now that *Days Gone* is available it has more than enough about it to put paid to any future associations with that other PS4 zombie franchise.

That's because, while it too is an action-adventure with a similarly human, heart-filled story, it is also an open-world survival game. And an RPG of sorts. Plus a duck-and-cover shoot-'em-up. And a stealth-based sneak-a-thon. And... well, you get the picture.

The game happily wears its influences on its sleeve, borrowing elements from some of the biggest titles around. There is a shade of *Last of Us* for sure, but also *Assassin's Creed*, *Far Cry*, *Red Dead Redemption* and, most notably, *Uncharted*.

Character models, production values and graphical touches all bring to mind Nathan Drake's exploits, but the most familiarity comes with combat. As in *Uncharted 4*, there are patches of long grass to hide in, walls and columns to use as cover in fire fights, and a similar shooting mechanism to get to grips with. This doesn't hamper *Days Gone*, though – combat is excellent because of it.

Enemy types fall into two categories: zombies (called Freakers) and humans. Where the former differ from those in other games is that they are more in the Zack Snyder mould – they run and can move in a hive-minded horde. It's particular heart-pounding to find yourself on the wrong side of such a swarm.

Watching them is a joy too, as the game is graphically rich – especially on the PlayStation 4 Pro where it is presented in dynamic 4K. We're not as fussed by the HDR option – which can be switched on or off – as it doesn't seem to offer a vast difference, but it's nice to have the choice.

Days Gone is a huge game that offers plenty of main and side missions, a large open-world environment to explore, and more zombies than you can shake a decomposing limb at. It proudly ranks in the upper echelons of PS4 exclusives and certainly holds the fort until the *Last of Us* sequel finally arrives.



The Man Who Killed Hitler & Then The Bigfoot

Sparky Pictures → All-region BD
£20



Behind a title that sounds like the sort of low-budget schlock made for the Syfy Channel, filmmaker Robert D. Krzykowski delivers a deeply melancholy character study – albeit one

about a man who kills both Hitler and Bigfoot... This enjoyably odd film arrives on Blu-ray with a strong 1080p encode that replicates the varying colour palettes and grain levels employed across the story's twin time-lines, while a dynamic DTS-HD MA 5.1 mix provides ample sonic support. Worthwhile extras include a chat-track and short film. **AvB**



Destroyer

Lionsgate → Region B BD
£25



A damaged LAPD detective breaks as many laws as they uphold when a ghost from the past provides a final shot at redemption. It's a story we've seen play out on the silver

screen countless times before; the difference here is that *Destroyer* gender-flips the male-centric noirs of yore and casts Nicole Kidman as the cop – a seemingly simple change, but one that subverts our expectations of the story and its star. Lionsgate's barebones Blu-ray has an involving DTS-HD MA 5.1 track and a sharp 1080p encode that finds a wealth of detail in its frequent close-ups of Kidman's haggard face. **AvB**



Assassination Nation

Universal Pictures → R2 DVD
£13



This black comedy about a small American town that falls to mob rule when its inhabitants' private digital data is leaked online may not be what you'd call subtle, but as

far as depictions of Trump's America and feminist rallying cries go, you'd be hard-pressed to find one as sharp or satisfying. This DVD (there's no UK Blu-ray, sadly) is a hit-and-miss affair, with an anamorphic 2.40:1 transfer sometimes struggling to accurately resolve the film's heavily stylised visuals. **AvB**





Friends 'n' enemies reunited

M. Night Shyamalan's comic book sequel lacks action but looks and sounds super on 4K Blu

→ GLASS

Nearly two decades after introducing us to hero David Dunne (Bruce Willis) and evil genius Mr. Glass (Samuel L. Jackson) in *Unbreakable*, and three years after *Split* surprised us by revealing it was part of the same world, we get this trilogy-closer.

In *Glass* we find Dunne hunting James McAvoy's villain from *Split*, but both are arrested and join Mr. Glass in hospital. There we meet a psychiatrist (Sarah Paulson) who believes she can cure them of their superpowered delusions.

Most of the remaining film takes place in the hospital, as it slowly deconstructs the nature of heroism and villainy, as well as many classic comic book tropes. It's not for everyone, but fans of *Unbreakable* and *Split* will love the film's more grounded approach and the inevitable twist.

Picture: *Glass* was shot at a resolution 3.4K and finished using a 4K DI. It was graded for HDR, but despite being released theatrically in Dolby Vision, Universal's UHD Blu-ray is limited to HDR10. The film uses a 2.39:1 aspect ratio and the transfer is pristine, aside from one instance of aliasing which is probably due to a poor wardrobe choice.

Compared to the included 1080p disc, the 4K version has noticeably more resolution in every scene, but especially in close-ups. The level of detail in characters' faces is remarkable.

The wider colour gamut allows the Ultra HD platter to fully render Shyamalan's carefully composed images. Colours are used as a narrative

tool, often foreshadowing later events. There is greater accuracy and richness to these tones, especially in the 'pink room', subtly reinforcing various visual clues. Brighter scenes retain an intense luminosity but remain free of any clipping, while blacks are deep and solid.

Audio: If you're expecting the kind of bombastic soundtrack that normally accompanies superhero mayhem, you'll be disappointed. Instead you get an expertly crafted Dolby Atmos mix that makes plentiful use of the available channels in clever and subtle ways to benefit the overall storytelling.

First of all there's fantastic dynamic range, so when the LFE channel is employed or the action gets loud it has real impact. A climactic battle makes impressive use of the sub-sonic frequencies, giving punches a suitably superpowered thump, while in Chapter 3 there's some excellent height channel work as thunder rolls overhead.

Dialogue is always clear and prioritised. The deliberately unsettling score is spread across the front soundstage, while the surrounds are engaged to create a beautifully balanced mix.

Extras: The 4K platter includes all the extras, and at first glance it looks like a decent bunch. However, most of the featurettes only clock in at a couple of minutes, so the total running time is disappointing. They cover story, direction, characters, actors, sets, locations, props, stunts, effects, and music, but are ultimately lightweight. You also get an alternate opening and 25 minutes of deleted scenes, all with optional intros from M. Night himself. **SW**

'Um, sorry – we put you in here 19 years ago and forgot all about it'



James McAvoy runs the gamut of performances playing 'The Horde'



HCC VERDICT

Glass

→ Universal Pictures → UHD Blu-ray & All-region BD → £28 (US Import)

WE SAY: More grounded comic book sequel benefits from a super 4K DI and a smashing Atmos mix.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Killer queens underwhelm

British history's most epic all-female regal showdown is an oddly drab affair

→ MARY QUEEN OF SCOTS

There's probably a thrilling epic to be made about Queens Mary and Elizabeth, their religious clash and battle for the throne, but director Josie Rourke's historical drama isn't it. It meanders aimlessly from scene to scene, and nothing about the way it's lensed or scripted gives you any real emotional or narrative meat to sink your teeth into.

Individual elements work fine. The performances are mostly decent, there's handsome period photography, and Max Richter's score is suitably (if occasionally distractingly) regal. But the film consistently feels like less than the sum of its parts.

Picture: With only a Full HD Blu-ray released in the UK (a 4K disc was announced, but then scrapped) some may be tempted to import this Ultra HD BD from the US instead. But is it worth the effort?

On the plus side, the 4K image is mostly highly detailed – a big step up from the 1080p incarnation. It generally looks much cleaner, too. In fact, some of the glorious Scottish exteriors and spectacular period costuming are reference grade.

At other times, though, usually during dark scenes, the image can suddenly soften. And while some shots are gorgeously lifelike, others – particularly the dark interiors of Mary's Scottish homes – look strangely flat and washed out, with elevated black levels.

It's possible this flattened look for Mary's residences is deliberate, to make the character appear less grandiose than Queen Elizabeth. Or perhaps it's an unavoidable side effect of the film's preference for diffuse lighting and smoky sets.



Saoirse Ronan plays Mary, while Margot Robbie (top right) is Ronald McDonald

4K
ULTRA
HD



The image looks more balanced and controlled if you can watch the provided Dolby Vision transfer. But either way, we still prefer the Full HD Blu-ray's presentation of the film's darker scenes.

Audio: The Dolby Atmos mix is surprisingly robust for a period drama. Richter's score is propelled around your speakers with impressive lushness. There's also lots of ambient detail, even in the height layer, as well as more dynamic range than you typically get with 16th century dramas.

Extras: The most substantial extra is a director/composer commentary track. This isn't particularly forensic, and Richter mostly just 'Mms' in agreement, but Rourke proves a likeable guide.

Otherwise you get three frustratingly short and humdrum featurettes covering the relationship between the two Queens, 'Tudor Feminism', and the camaraderie between the actors who played Mary's maids. All extras are included on both discs. **JA**

HCC VERDICT

Mary Queen of Scots

→ Universal Pictures → UHD Blu-ray & All-region BD → £25 (US Import)

WE SAY: Both the film and many of its interior visuals end up feeling oddly flat.

Movie: ★★☆☆☆

Picture: ★★☆☆☆

Audio: ★★☆☆☆

Extras: ★★☆☆☆

OVERALL: ★★☆☆☆

Colette

Lionsgate → Region B BD
£25



Keira Knightley has made a habit of starring in unusually modern period dramas – a trend that continues with this playful and sexy biopic of groundbreaking French author Sidonie-Gabrielle Colette. Shot digitally, *Colette* cuts a striking figure on Blu-ray, with a 2.40:1-framed 1080p presentation with the textural detail and clarity to show off the work that went into the film's handsome costumes and production design. The disc's DTS-HD MA 5.1 mix is also far more involving and spacious than you may expect. Only the paltry extras – just a short reel of deleted scenes – spoil things. **AvB**



Somewhere in Time

Final Cut Entertainment
All-region BD → £15



This charming 1980 time-travel love story stars Christopher Reeve as a 1970s playwright obsessed by a portrait of a turn-of-the-century stage actress (Jane Seymour), using self-hypnosis to travel back to 1912 to meet her. Panned on its original release, the film is something of a cult favourite now and this Blu-ray should keep its fans happy – so long as they can live with some obvious digital sharpening in the 1.85:1 Full HD encode. Extras include an interview with editor Jeff Gourson and appreciations by critics Kim Newman and Allan Bryce. **AvB**



Iron Sky: The Coming Race

101 Films → Region B BD
£10



If the thought of watching a reptilian Hitler invade a moon base while riding a Tyrannosaurus tickles your funny bone, then this sequel to the 2012 'invasion of the moon Nazis' flick *Iron Sky* was made for you. For everyone else, this wilfully silly pulp mashup might prove to be a waste of a night in. 101 Films' budget Blu-ray platter serves the movie's surprisingly good VFX well with a pleasing 1080p encode, but skips the native Atmos mix in favour of a more traditional DTS-HD MA 5.1 track. There are no extras whatsoever. **AvB**



Being Frank: The Chris Sievey Story

Altitude → Region B BD
£20



While plenty of people of a certain age will be familiar with Frank Sidebottom, we'd wager that very few know anything about Chris Sievey, the man inside Frank's giant *papier-mâché* head. This heartfelt documentary aims to rectify that, exploring his life through new interviews and a wealth of home movie footage. Naturally, the quality of the 1080i50 encode depends on the source material; the DTS-HD MA 5.1 track fares better with its mix of music and chat. As Blu-rays go, this one's definitely not bobbins! **AvB**

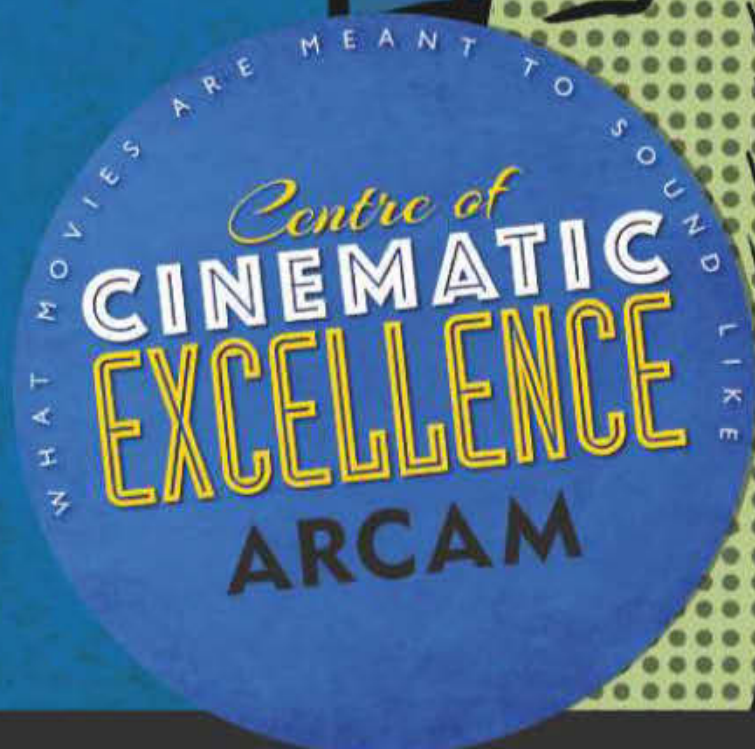


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'Did you ever watch
that movie *Predator*?
We're doomed!'



Welcome to the (alien) jungle

Alex Garland's shimmering high-concept sci-fi movie shines even brighter in 4K HDR

→ ANNIHILATION

Having been dumped on Netflix on these shores by Paramount after being deemed 'too intellectual', writer-director Alex (*Ex Machina*) Garland's latest sci-fi thriller has finally escaped onto DVD, BD and (as reviewed here) Ultra HD Blu-ray.

The film follows a team of five female scientists (played by Natalie Portman, Jennifer Jason Leigh, Tessa Thompson, Gina Rodriguez and Tuva Novotny) as they venture into 'The Shimmer', an expanding ecological event of alien origin from which nobody has ever returned.

Mixing simple pulp thrills with grand thematic ideas concerning grief and self-destruction, *Annihilation* is an utterly enthralling slice of grown-up sci-fi; a brainy and bravura cinematic brainteaser that lodges deep in the mind and proves impossible to shake free from. If you missed it on Netflix, you know what to do...

Picture: Garland frames his sci-fi at a wide 2.40:1, and on Paramount's UHD Blu-ray release it frequently looks gorgeous. Digital cinematography, reportedly at better-than-4K resolution, yields a clean, modern-looking (and quite dark) image with clarity and detail at times in abundance, at least when shot composition and diffuse lighting doesn't soften picture areas deliberately.

The colour palette at first is muted (but with obvious saturation to reds and blues in character's costumes); 'The Shimmer' introduces more hues for the disc's HDR encode to play with,



and pushes vibrancy. Indeed, the way this 4K HDR iteration (including Dolby Vision – not tested) emphasises the otherworldly nature of the film's mysterious, er, thing – via light reflections and colour punch – is perhaps the most obvious benefit of the step-up from 1080p SDR Blu-ray.

Audio: *Annihilation*'s Dolby Atmos soundtrack is an exemplary piece of sound design. While the opening scenes take a fairly low-key approach (although even here you'll find occasional spot effects in the height layer), once the action moves into 'The Shimmer' the mix really perks up. Between the disconcerting hum that envelops you and the precise detailing that leaves speakers buzzing with insect noise and other ambient effects, the track transforms the location into a living 360-degree soundscape – one that is both oddly familiar and unsettlingly alien.

There's also no shortage of aggression in the soundmix during the run-ins the team have with the local wildlife. But as chaotic as these scenes get, there's still a sense of control to the sonics, with refined delineation, seamless panning and deep bass combining to dynamic effect.

Extras: *Annihilation*'s extras take the form of six fairly detailed featurettes, all found on the accompanying Full HD disc; topics covered include VFX work and production design, scripting, casting and Alex Garland's work process. What you don't get, unfortunately, is an interview with the Paramount suit explaining why this cracking flick was deemed unsuitable for a cinema release – that would have been interesting. **MC & AvB**

HCC VERDICT

Annihilation

→ Paramount → Ultra HD Blu-ray
& All-region BD → £30

WE SAY: A thought-provoking sci-fi on a solid UHD release – worth waiting for.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Possession of Hannah Grace

Sony Pictures → R2 DVD
£16



Skipping Blu-ray in the UK, this fright flick sees things getting seriously freaky for the newest attendant at a hospital morgue following the arrival of the body of a girl who died during an attempted exorcism. Reminiscent of superior *The Autopsy of Jane Doe*, the film is at its best during its more tightly focused first half, but goes off the rails as it keeps piling up the victims. The DVD delivers a solid 2.40:1 transfer partnered by a DD5.1 mix that's full of spooky localised effects. A pair of six-minute behind-the-scenes featurettes are the pick of the slim extras. **AvB**



Prospect

Signature Entertainment
All-region BD → £16



Prospectors, bandits, restless natives. This impressive \$4m indie film takes a bunch of familiar tropes from the Western genre and gives them a sci-fi spin. The result may not feel especially original, but it is well-acted, stylishly shot and bodes extremely well for the future of writer-directing duo Zack Earl and Chris Caldwell. While this UK release one-ups the US platter by being a pressed disc rather than a made-to-order BD-R, it drops the ball by ditching all of the extras. Still, on the positive side, the AV quality is very good – especially the involving and detailed DTS-HD MA 5.1 track. **AvB**



Anna and the Apocalypse

Vertigo Releasing → R2 DVD
£16



Giving the enduring popularity of zombies and musicals in pop culture it was surely only a matter of time before somebody decided to combine the two. What probably nobody saw coming was that this would give birth to an immensely enjoyable genre mashup that not only delivers some fun songs, but is populated by characters you end up really rooting for. The only downer is that with no UK Blu-ray on the cards (although there is a German BD) you will have to make do with this adequately specced DVD release instead. **AvB**



The Iguana with the Tongue of Fire

Arrow Video → Region B BD
£25



Arrow Video's journey through the history of the Italian giallo was always going to hit the odd speed bump along the way – and this 1971 Dublin-set dud from director Riccardo Freda must be the biggest so far. Arrow has nevertheless put together a compelling Blu-ray package for Freda's unintelligible mess, based around an attractive new 2K restoration with cleaned-up mono audio (in English and Italian). Heading up the extras is an enjoyable chat-track that mixes plenty of background info with good-natured ribbing of the film. **AvB**



Notorious flop is no lame duck

Take this early Marvel movie for a spin on Blu-ray and you may be pleasantly surprised

→ HOWARD THE DUCK: LIMITED EDITION

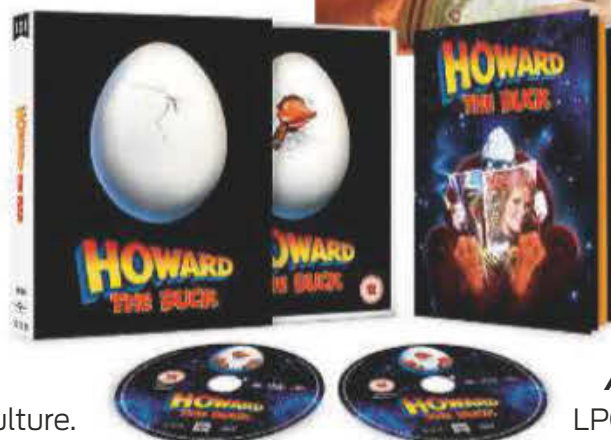
A long-time passion project of producer George Lucas, the 1986 comic book adaptation *Howard the Duck* was mostly hated by both critics and audiences. But, following a string of cameos for the talking duck in the MCU (including a blink-and-you'll-miss-him appearance in *Avengers: Endgame*), plus news of an animated series coming to Hulu, it's easy to see why an enterprising Blu-ray label thinks now is the perfect time to reacquaint us with Howard's bigscreen debut.

The good news is that time has been quite kind to *Howard the Duck*. Okay, so not all of the jokes land, it's too long, the tone is wildly uneven, and let's not even get into the whole bestiality thing. However, the more metatextual elements of the script play far better today as we're used to post-modernism creeping into all corners of pop culture. And even though Howard himself looks a little mannequin-like at times, elsewhere the special effects hold up well – particularly the stop-motion Dark Overlord from the film's finale.

All told, while far from perfect, *Howard the Duck* is a more enjoyable film than you may remember – and a much, much weirder one, too.

Picture: There's nothing fowl about *Howard the Duck*'s Blu-ray encode. Framed at 1.85:1, the 1080p image boasts a typically bold 1980s colour palette,

By fair means or fowl...



solid black levels, plenty of fine textures and a healthy amount of native film grain. Thankfully, despite being licensed from Universal, the use of noise reduction hasn't been overcooked either.

Audio: The disc includes both LPCM 2.0 and DTS-HD MA 5.1 mixes. The latter is a very satisfying

affair that employs the surround channels and backs up the immersion with a reasonable amount of LFE. John Barry's score has never sounded better.

Extras: Pick of the extras is an engaging exploration of Howard's comic and screen history with BFI DVD/BD producer Vic Pratt. Also included are a pair of critics' commentaries (which unfortunately overlap rather a lot), five short archival promo featurettes, a teaser trailer and a 28-page booklet. **AvB**



HCC VERDICT

Howard the Duck: Limited Edition

→ 101 Films Black Label
→ Region B BD & R2 DVD → £15

WE SAY: Like the film, this Blu-ray package is a hit-and-miss affair that gets more right than it does wrong.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Production delays meant the film arrived five years after *HTTYD 2*



Touching finale loses the plot

DreamWorks says goodbye to its dragons with a familiar story and inconsistent 3D presentation

→ **HOW TO TRAIN YOUR DRAGON: THE HIDDEN WORLD 3D**

The concluding instalment in DreamWorks' *How to Train Your Dragon* trilogy picks up one year after its predecessor with Hiccup, Astrid and friends rescuing captured dragons. In retaliation, the dragon-trappers hire infamous hunter Grimmel the Grisly to return the missing critters (and any other dragons he can get his hands on). Meanwhile, Toothless meets a female of his species and falls in love...

It may not be obvious from the description above, but the central theme of this final *How to Train Your Dragon* has to do with growing up and learning to let go of those we love, no matter how much it hurts to do so. It's an approach that gives DreamWorks' trilogy-capper a welcome sense of finality.

Unfortunately, it's subsumed into a larger narrative that seems content to simply retread old ground. And this familiarity robs *...The Hidden World* of much of its emotional impact – a situation not helped by a short coda that, while cute, betrays the entire point of the film that led up to it. Junior AV-Holics may not care about that, of course.

Picture: It should come as no surprise to learn that *How to Train Your Dragon: The Hidden World*'s 2.40:1-framed Blu-ray encode is nothing short of immaculate, at least in its 2D incarnation.

However, things aren't quite so cut-and-dried when it comes to the 3D presentation of the film. From a purely technical standpoint, the stereoscopic MVC encode is extremely robust, something that is



made apparent right from the off, with the fog-bound raid on the dragon trappers' ship revealing only the very slightest traces of banding.

The brightly lit flight back to Berk at the start of Chapter 2 lifts the 3D imagery to another level, filling the screen with myriad objects moving through a busy three-dimensional space. Meanwhile, the entrance to the Hidden World (Chapter 14) packs in a riot of vibrant bioluminescent colours.

If only it was all so impressive. The key problem comes from the filmmakers' decision to stage many scenes in low-light settings – and a lot of the time this ends up blanketing the screen in muted shades of grey and brown that provide little depth and flatten the image almost completely.

Audio: Both the 3D and 2D versions of the film are partnered by the same Dolby Atmos soundtrack. While bass sometimes feels a little restrained (at least until the very largest dragons start stomping around), use of the surround and height channels is utterly convincing, creating a tangible acoustic environment all around you. Overall, it's lively, precise and enjoyable.

Extras: All the extras are found on the 2D disc. These run to a feature-length commentary by director Dean DeBlois; a couple of amusing animated shorts (the CG *Bilby* and traditionally-animated *Bird Karma*); animatics for an alternate opening and five deleted scenes, all with optional commentary from DeBlois; a veritable *smörgåsbord* of short behind-the-scenes vignettes; and two goofy *Dragon Sheep Chronicles* shorts. **AvB**

HCC VERDICT

How to Train Your Dragon: The Hidden World 3D

→ DreamWorks/Universal Pictures
→ All-region BD → £28

WE SAY: This 3D encode soars to spectacular heights on occasion, but at other times feels flat.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Raiding the HandMade vault

The heist is on as Indicator gets its hands on an underrated British crime film

→ BELLMAN & TRUE

Many are familiar with HandMade Films' earlier forays into the crime genre – *The Long Good Friday* (1980) and *Mona Lisa* (1986) – yet this 1987 heist flick is largely forgotten. Now that it's landed on Blu-ray, is it worth a watch?

Bernard Hill stars as Hiller, an electronics expert with a drink problem, who is forced to assist a gang of bank robbers that have kidnapped his step-son (Kieran O'Brien). As Hiller realises the complexity of the plan, it becomes clear he will have to join the gang on the heist. Can he cope with the pressure? And can he really trust the gang to honour their side of the deal when it's all over?

Directed by Richard Loncraine (who also helmed the 2006 Harrison Ford remake *Firewall*), *Bellman & True* was originally developed as a three-hour TV miniseries, only for HandMade to also release a cut-down 114-minute version in cinemas. Although there's still a slight whiff of '80s TV drama about the production, the unflashy cinematography and grubby locations feel very much of a piece with British cinema of the era. And, regardless, *Bellman & True* is an incredibly tense, unpredictable thriller built on a foundation of well-drawn characters brought to life by a solid cast of familiar faces.

Picture: Although the 114-minute cut of *Bellman & True* was released in cinemas, prior to that a 122-minute version was screened at the London Film Festival. Indicator's Blu-ray release includes both (but not the TV miniseries, the rights for which are tied up elsewhere). The quality of the 1.85:1-framed Full HD presentation of the theatrical cut is generally



quite good, although fluctuations in grain density and black level show there's still room for improvement. The eight minutes or so of 'branching' footage in the 'pre-release' cut come from standard-definition materials and immediately stand out due to their crushed blacks, and a drop in detailing caused by the lower resolution.

Audio: As you might expect, the DTS-HD MA mono soundtrack is a no-frills affair, although dialogue is clean and Colin Towns' score comes across nicely. As bad as the additional footage in the pre-release version looks, some of it sounds even worse, with plenty of hiss and distortion evident.

Extras: Indicator's disc includes substantial new interviews with director Richard Loncraine, actor Kieran O'Brien, author Desmond Lowden and composer Colin Towns, alongside the trailer and an extensive image gallery. A 32-page booklet of writing about the film is also included. **AvB**



HCC VERDICT

Bellman & True

→ Indicator → Region B BD
→ £16

WE SAY: This British crime flick finally gets its due with a well-produced HD platter.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Track 29

Indicator → Region B BD
£16



A cinematic reworking of Dennis Potter's 1974 BBC *Play for Today* drama *Schmoedipus*, Nic Roeg's *Track 29*

(1988) relocates the story to the US. Theresa Russell plays a housewife losing her grip on reality, Gary Oldman is the man who may be her long lost son, and the whole thing is as agreeably bonkers as you'd expect from the combination of Potter and Roeg. While nothing is what it seems in the film, everything is as it should be when it comes to this BD; an appealing 1.85:1 Full HD image is joined by a strong array of extras including a chat-track and four new interviews. **AvB**



A Face in the Crowd

The Criterion Collection → Region B BD
£28



Comic and actor Andy Griffith is far better known in his native US than on this side of the Atlantic, but this

shouldn't dissuade anyone from giving his 1957 movie debut a spin on Blu-ray. Director Elia Kazan's powerful and still depressingly relevant attack on the intersection of celebrity and politics has been treated to a new 4K scan of the original 35mm original camera negative, resulting in a spectacular 1.85:1 Full HD encode. The BD's LPCM mono audio is less immediately exciting, but serves the material faithfully. Extras include video essays about Griffith and Kazan. **AvB**



Mr. Topaze

BFI Flipside → Region B BD & R2 DVD
£20



Peter Sellers' directorial debut follows the transformation of an unassuming, scrupulously honest school teacher into a criminal businessman. It's Sellers' *Breaking Bad*, if you like.

Rarely seen since 1961, this 'lost' film comes to Blu-ray courtesy of a 2K scan of a 35mm print. While this is apparently the best surviving element, it exhibits missing frames, scratches and – most notably – faded cyan and yellow layers, giving the image a strong magenta cast. Even so, it's clear the BFI has done the best it can with the material available. Archival extras from the BFI vault include short films and interviews. **AvB**



Revenge is sweet for Jennifer Garner

Gender-flipped version of *The Punisher* shows that the former TV spy is still an action superstar

→ PEPPERMINT

If you're looking for an angst-riven drama about tragedy and loss, you're probably wading in the wrong stream. *Peppermint*, an Amazon exclusive in the UK after its less-than-stellar US box office run, is an unapologetic vigilante revenge thriller that racks up more kills in its tight running time than a season of *The Punisher* (probably).

The movie sees Jennifer Garner return to action as killing machine Riley North. It's as if no time at all has lapsed between this and her stint as smallscreen super-spy Sydney Bristow in J.J. Abrams' *Alias*.

This time around she has deadly intent, and with good reason. She wants payback against the drug cartel that gunned down her hubby and daughter. Despite being able to identify the shooters, an unscrupulous lawyer gets the case dropped. Flash-forward five years and North is back, with a weapons cache in the boot of her van, and a very special set of skills. Mob boss Diego Garcia (Juan Pablo Raba), aka The Guillotine, isn't worried. Big mistake.

Garner makes a convincing action star. Like Frank Castle, but with a badder attitude, she scowls relentlessly and has a penchant for self-surgery which would make Stallone wince.

Picture: *Peppermint* is presented in 1080p and framed at 21:9, but has the aesthetics of a generic TV action show – brightly lit with deep depth of field. Still, it's cut fast and furious, and there's plenty of fine detail held in the frame. Cinematographer David Lanzenberg,



who also shot US TV hits *Riverdale* and *Chilling Adventures of Sabrina*, lenses the melee on an Arri Alexa camera at 2.8K with anamorphic lenses.

Audio: *Peppermint*'s sound design is a mixed bag. The broody score from Simon Franglen (who's worked on a huge number of action flicks, including *Spectre* and *Skyfall*, and was responsible for remixing

Pink Floyd in immersive Ambeo sound for the exhibition *Their Mortal Remains*), is all heavy metal riffs and Hans Zimmer-esque percussion, both of which warrant a thumbs up. But the soundmix here is by the numbers, heavily weighted to the front soundstage. The Amazon presentation doesn't have a great dynamic range either. Despite the sheer volume of firepower, which should jolt and excite, it's all a bit compressed. **SM**



Peppermint was directed by **District 13** and **Taken** helmer Pierre Morel

HCC VERDICT

Peppermint

→ Amazon Prime Video (STX International)

WE SAY: An enjoyably undemanding revenge thriller let down by equally undemanding AV performance.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

OVERALL: ★★★★★

→ BLACK SUMMER

→ Netflix

A prequel series to SyFy's post-apocalyptic zombie comedy-drama series *Z Nation*, this stripped-back survival show, set during the early days of a living dead outbreak, is cut from a different rotting cloth to rival shows, and actually bears little relation to the one it shares its universe with.

Where *Z Nation* is tongue-in-cheek, *Black Summer* is unrelentingly bleak. There are no goofy characters or snappy one-liners to make you feel comfortable.

What really makes *Black Summer* a very different viewing experience to, say, *The Walking Dead*, is its chaptered narrative. A single episode has several chapters, each centred around a character or group. These do not necessarily run in chronological order, and repeatedly overlap. One will feature a disparate band fleeing the fast-running dead by car, who glimpse a fleeting incident; a subsequent episode returns to the incident, with the car from the previous chapter hurtling past in the background.

Editing is fast and dialogue minimal. This gives the eight-episode show a frantic, but coherent, sense of propulsion.

With widescreen framing and sharp, high-res detail, image quality, presented up to 4K HDR depending on your device, is high. There's also no 16mm grain here, which adds to the realism.

However, the real star of the show is *Black Summer*'s 5.1 audio mix. With minimal use of its driving electronic score, the sound design places guttural snarls and sonic chaos in every corner of the soundstage. When one terrified survivor hides in the aisles of a supermarket, we hear the dead circling around him, as they literally try to sniff him out.

Although we weren't able to test it, *Black Summer* is reportedly available in Dolby Vision and Dolby Atmos on selected (i.e. LG) screens. But either way, it's well worth snacking on. **SM**



Jamie King stars as Rose, a mother separated from her daughter at the onset of the zombie outbreak



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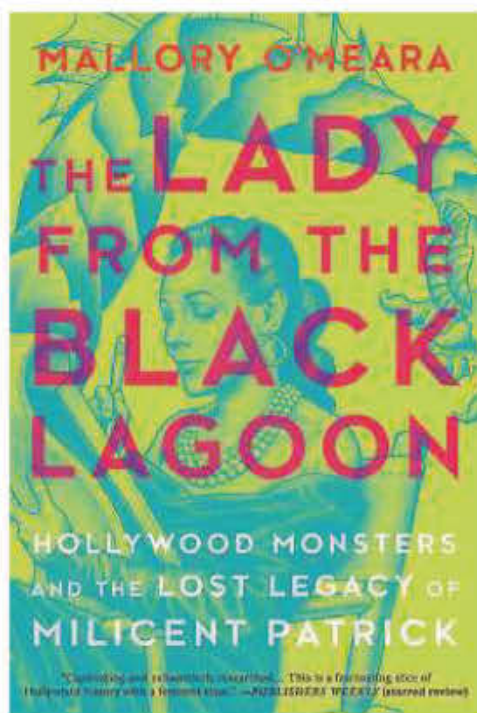
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Attack of the green-eyed monster

Fascinating biography shines a light on a forgotten creature-designer and Hollywood sexism



The book's striking cover was illustrated by tattoo artist Matt Buck

→ THE LADY FROM THE BLACK LAGOON: HOLLYWOOD MONSTERS AND THE LOST LEGACY OF MILICENT PATRICK

Mallory O'Meara → Hanover Square Press → £21

In a just world Milicent Patrick would be far better known than she is. The multitasking Milicent got her start in the film business as one of the very first female animators at Disney, where she worked on the *Night on Bald Mountain* sequence for 1940's *Fantasia*. She also appeared in front of the camera, albeit mainly as a background player, in such films as *The World in His Arms*, *We're Not Married!* and *Abbott and Costello Meet Captain Kidd* (all 1952).

However, it was the work she did for the special effects makeup department at Universal that should have cemented her place in film history – not only did she work on the alien from *It Came from Outer Space* (1953), she also designed the Gill Man for the legendary monster movie *The Creature from the Black Lagoon* (1954). Sadly, her boss Bud Westmore couldn't deal with a woman being given the credit for such an achievement and insisted that he be known for the work instead. And just like that Patrick's SFX career was brought to an abrupt end.

With this ostensible biography of Milicent Patrick, author Mallory O'Meara sets out to rewrite her into Hollywood lore, only to discover that it's a far harder



task than she imagined. Indeed, O'Meara's journey of discovery, and the unexpected places researching Patrick's life and work take her, lend the book a detective novel feel, and are as much a part of the story she is telling as the biography itself.

Moreover, as a young woman working in the film industry, O'Meara is fully aware that many of the same sexist attitudes are still at work

today, allowing her to draw parallels between her own life and that of Patrick. Inserting herself into the narrative in this way is not something that everyone will take to – but in the post-Harvey Weinstein era it's a timely reminder of the progress that hasn't been made.

www.hanoversqpress.com



Breaking Bad FAQ

Rich Weidman → Applause Theatre & Cinema Books → £16



It's only been a little over five years since the final episode of *Breaking Bad* aired, but so much has been written about Vince Gilligan's acclaimed drama in that time it's hard to think what else is left to be said about it. Evidently author Rich Weidman thought differently. Following the expected run-through of the show's origins, cast, characters and episodes themselves, this FAQ really proves it worth when Weidman starts digging into some unexpected avenues, such as the accuracy of its depiction of the crystal meth 'industry', connections to *Seinfeld*, and exploring some truly bizarre – but popular – fan theories.

www.applausebooks.com

Alien Resurrection: Ultra Deluxe Alien Queen

NECA, Inc. → £160



The bitch is back! Having recently given Series 14 of its long-running *Alien* action figure range over to a trio of characters/xenomorphs from *Alien: Resurrection*, toy maker NECA has now revealed they'll be joined on shelves this Summer by a plastic replica of that film's version of the Alien Queen. Made to scale with NECA's range of 7in action figures, the 'Ultra Deluxe Alien Queen' measures over 15in tall and 30in long, and boasts over 30 points of articulation, including a poseable tail. The super-sized figure also ships with a display stand and two interchangeable inner jaws.

www.necaonline.com

The Art and Making of The Handmaid's Tale

Andrea Robinson → Titan Books → £25



Unlike other books of its ilk, it's the text that carries the most weight in this exploration of the making of the celebrated TV drama. Taking nothing away from the vast collection of photography and production art that illustrates it, the real meat of this handsome hardback are the interviews

author Andrea Robinson conducted with the show's principal cast and creative team, including author/consulting producer Margaret Atwood. Together they add up to an in-depth look at how the first two seasons of this dystopian series made it to the screen – and the cast and crew's pride in the legacy it's leaving behind.

www.titanbooks.com

Collecting...

Walter Hill

He may have co-written *Alien*, but the writer/director is more famous for his run of macho thrillers and westerns – and musicals. **Team HCC** picks out ten of the best

TRESPASS

Although conceived by writers Bob Gale and Robert Zemeckis in the 1970s, it wasn't until 1992 that Walter Hill got this project off the ground and into cinemas, with Ice T and Ice Cube leading the film's cast of St Louis gangsters, and Bill Paxton and William Sadler the out-of-town firemen who intrude on their derelict HQ in pursuit of hidden treasure. A script designed for a low-budget shoot works in the film's favour; the action is reduced to a single location, allowing Hill to focus on cranking up the tension and developing characters beyond caricatures, before bringing things to a fiery conclusion...

Get it: *Trespass* hit Blu-ray last year on 101 Films' new Black Label imprint (title number 005), complete with twin chat tracks, interviews and a booklet.



HARD TIMES

Hill graduated from screenwriter to director in 1975, and cast Charles Bronson as a bare-knuckle boxer/drifter caught up with New Orleans criminals during the Great Depression. Laying the template for much of his later work, *Hard Times* is trimmed of any fat, showcasing an economy of style when it comes to dialogue, plot and composition.

Get it: Eureka's Masters of Cinema Blu-ray (2017) gathers exclusive extras (including a new interview with Hill) and a 20-page booklet.



THE GETAWAY

Director Sam Peckinpah works from Walter Hill's screenplay in this twisty, violent 1972 thriller starring Steve McQueen and Ali McGraw (and remade – badly – in 1994 with Alec Baldwin and Kim Basinger). The narrative may now seem clichéd (lovers on the run, a bundle of cash, baddies in pursuit), but Peckinpah and McQueen bring bags of style.

Get it: Warner Bros. gave *The Getaway* a 2007 Blu-ray release, which is now seemingly out of print. Fingers crossed a revisit is on the cards.



STREETS OF FIRE

Hill's career never fully recovered from this big-budget 1984 flop, and it's easy to see why *Streets of Fire* struggled at the box office – after all, it's an action/musical that fuses biker gangs and 1950s rock 'n' roll culture with outlandish set design, a wooden lead in Michael Paré, and Willem Dafoe in dungarees. But if you can get onboard with all that, it has charm by the bucketload.

Get it: Oddly part of the HD DVD catalogue, you can now snaffle *Streets of Fire* on an extras-packed Region B Blu-ray.



BROKEN TRAIL

A two-part TV mini-series that aired on AMC in the US in 2006, *Broken Trail* casts Robert Duvall as a veteran cowboy whose plan to herd 500 horses cross-country comes unstuck... A total three-hour running time gives Hill a chance to soak up the landscapes, while Duvall is excellent in the starring role. Give it a spin when you're in the mood for something slow and serious.

Get it: A DVD-only release in the UK, but there are BDs available to import from the US and European territories.

TOP PICK



SOUTHERN COMFORT

Hill was at the peak of his powers in 1981, delivering this brutal swampy thriller that imagines the Vietnam War being refought in the Louisiana Bayou by a group of (mainly) dimwitted National Guards and some altogether more cunning Cajun hunters. Prepare for lashings of black humour, nail-biting tension, and a hypnotic score by Ry Cooder.

Get it: *Southern Comfort*'s 2012 UK Blu-ray release (from Second Sight) looks pretty grubby. A 2014 Shout Factory outing may offer an improvement for those with Region A-ready setups.



48 HRS.

Eddie Murphy stars as convict Reggie Hammond, alongside Nick Nolte's grumpy Detective Jack Cates, in this 1982 box office smash that both kickstarted Murphy's film career and birthed the buddy movie genre. San Francisco provides the backdrop to *48 Hrs.* seedy, underworld narrative; Hill is on top form capturing the action beats and snappy dialogue. The 1990 sequel is fun too.

Get it: A 2018 HMV-exclusive BD release in VHS-style packaging is now out of stock, leaving the 2011 Blu-ray as your best option.



THE LONG RIDERS

Like John Carpenter, Hill's movies often have a touch of the Western about them – in 1980 he wore his heart on his sleeve with this superb tale of bank robber Jesse James and his band of not-so-merry men (made up by four sets of real-life acting brothers, including Stacy and James Keach, and David, Keith and Robert Carradine). Gritty and gripping, with slo-mo shootouts galore.

Get it: The 2013 UK BD sports an hour-long *Making of...*, but a two-disc Kino Lorber Special Edition (Region A) release from 2017 adds a commentary track and seven interviews.



THE DRIVER

Hill's ice-cold 1978 thriller (his second writer/director gig) has spawned many imitators – including 2011's Ryan Gosling flick *Drive*. Here it's another Ryan (O'Neal) behind the wheel as a getaway driver in Los Angeles, hunted by a detective (Bruce Dern) who'll bend the rules to get his man. While best remembered for its accomplished car chase sequences, *The Driver* is also notable for the purity of its script – this is filmmaking at its most leanest and meanest.

Get it: StudioCanal's 2014 UK Blu-ray is light on extras but image quality is excellent.

THE WARRIORS

Adapted from a novel itself based on a Greek legend (*Anabasis*), and featuring rival gangs of costume co-ordinated thugs battling across New York City, *The Warriors* (1979) would undoubtedly be Hill's most 'cult' film if he hadn't made *Streets of Fire* (left) a few years later. There's the expected Hill traits of streamlined plotting and explosive

violence, with an extra layer of weirdness. It's a shame Tony Scott never got the chance to film his proposed remake.

Get it: The Ultimate Director's Cut Blu-ray packs a four-part *Making of...* doc that's well worth a watch, and introduces an intro by Hill and comic-book style illustrations to transition between scenes. Groovy.



Have we missed one of your favourite Walter Hill movies?
Let us know: email letters@homecinemachoice.com

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Issue No.287



Issue No.288



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Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

All prices quoted are approximate and may have changed

TOP 15 Televisions

01

NEW ENTRY

Samsung QE65Q90R → £3,800 ★★★★★

The Korean giant's premium 4K HDR TV continues to showcase the colour and brightness talents of QLED technology, and improves black level delivery and upscaling via panel/processing upgrades. *HCC #298*

TOP 5 Blu-ray movies


Spider-Man: Into the Spider-Verse [UHD Blu-ray]

This Spider-Man 'toon feels fresh thanks to its comic book aesthetic, and on 4K BD it's given a colour/contrast-rich HDR presentation and excellent Dolby Atmos soundmix. *HCC #298*

★★★★★


Robin Hood [UHD Blu-ray]

The movie is a disappointment, but Lionsgate shows the way forward by providing both HDR10+ and Dolby Vision encodes. Image quality – derived from 8K cinematography – is stunning. *HCC #298*

★★★★★


Dr. Seuss' The Grinch 3D

Well-paced feature-length animation that mostly favours solid gags over mawkish sentimentality. The 3D presentation is excellent, and is joined by a playful Dolby Atmos soundmix. *HCC #297*

★★★★★


Aquaman [UHD Blu-ray]

Perhaps the best example yet of the potential of wide colour and HDR technologies, Warner's UHD platter dazzles from start to end. Bassy Atmos audio and plenty of bonus features complete an impressive package. *HCC #298*

★★★★★


Creed II

A sequel to both *Creed* and *Rocky IV* (Dolph Lundgren returns!) that adds impressive drama to the expected in-the-ring thrills. The BD's Atmos track is at its best when the punches start flying. *HCC #297*

★★★★★

02



Philips 65OLED903 → £3,500 ★★★★★

Take impressive audio from a B&W-designed speaker array, OLED-delivered 4K HDR visuals that outshine the competition, and add a sprinkle of Ambilight, and you get the most exciting display Philips has ever released. *HCC #290*

03



Panasonic TX-65FZ852 → £3,000 ★★★★★

4K HDR OLED (with HDR10+ support) that offers subtlety and refinement in spades (particularly with colour presentation and near-black handling), making up for a slight lack of dynamic punch. Unobtrusive design, too. *HCC #290*

04



Samsung QE85Q900R

→ £15,000 ★★★★★

It's frighteningly expensive and you won't find any native content to play on it, but Samsung's 85in 8K debutant still wows. Ultra bright and an excellent upscaler of 4K sources. An upgrade to HDMI 2.1 is promised. *HCC #292*

05



LG OLED65E8

→ £4,300 ★★★★★

This Dolby Vision-enabled OLED boosts image quality on last year's E7 (it's brighter, for one thing), although its Atmos sonics are a tad less impressive. Tidy design and excellent UI. *HCC #287*

06



Philips 43PUS6753

→ £430 ★★★★★

Sharp, colour-rich, direct-LED images, plus Ambilight and Philips' bespoke SAPHI smart system, make this 43in 4K HDR LCD a smallscreen(ish) dream. Superb option for a second-room/budget setup. *HCC #291*

07



Sony KD-55AF9

→ £3,000 ★★★★★

Pricier than most 55in OLED rivals, but this Master Series Sony has a unique style, effective 'invisible' audio solution, Dolby Vision/Atmos support and lush 4K visuals. Good new Android OS, too. *HCC #292*

08



Sony KD-55XF9005

→ £1,700 ★★★★★

Impressive backlighting, dynamic HDR images and top-quality motion processing are the major draws of this mid-tier Bravia. Android OS still needs improvement, though. *HCC #285*

09



Samsung QE65Q8DN

→ £2,900 ★★★★★

Not as bright as Samsung's top-of-the-range Q9 (and with fewer dimming zones) but still an impactful 4K HDR performer. Excellent HD upscaling, and native motion handling is also solid. *HCC #291*

10



Hisense H75U9A

→ £3,500 ★★★★★

This 75in LED is the brightest display we've seen, yielding benefits with HDR content, while backlit illumination aids solid black levels. Sharpness and colour delivery are less impressive, but the price/size ratio is good. *HCC #289*

11



Hisense 55A6200

→ £430 ★★★★★

A great value option, despite brightness levels not doing justice to its HDR support. Visuals are sharp with solid black levels and finessed colour handling. 4K apps and decent audio round out the package. *HCC #295*

12



Hisense 55U7A

→ £800 ★★★★★

FIFA-branded 4K HDR flatscreen that makes up for a lack of HDR brightness through its image clarity and solid black levels. Strong audio and a clutter-free smart platform sweeten the deal. *HCC #287*

13



TCL 55DC748

→ £700 ★★★★★

While this budget UHD LCD can look bright, detailed and colour-rich, its whole-frame dimming engine and absence of motion compensation count against it. The JBL soundbar is a little underpowered. *HCC #289*

14



Sony KD-55XF8505

→ £1,100 ★★★★★

This mid-tier edge-lit Sony set has its strengths, particularly its onboard audio and bright room/bright content playback. But a limited contrast means it never feels overly cinematic. *HCC #287*

15



Hitachi 75HL16T64U

→ £1,350 ★★★★★

This 75in megascreen offers a lot of 4K image for not a lot of money. Predictably, picture quality can't match that of big-brand rivals – but the TV holds appeal if you're mainly after an SDR display. *HCC #285*

TOP 15 Speaker systems

01

**Bowers & Wilkins 700 Series 5.1**

→ £3,800 ★★★★★

This array finds the larger models in the 700 Series proving their mettle with formidable power and precision, an expressive mid-band and detailed highs. Excellent. *HCC #285*

TOP 5 On-demand

**Bird Box [Netflix]**

Sandra Bullock closes her eyes and hopes for the best in this well-constructed high-concept thriller. *Bird Box* is fast-paced and atmospheric, and has a 5.1/ Atmos soundmix that skilfully heightens the tension. *HCC #295*

★★★★★

**Outlander: Season Four [Amazon Prime]**

The historical time-travel romp moves its action Stateside for another 13 episodes of steamy romance and deft dramatic plotting, all told with convincing period detail. *HCC #294*

★★★★★

**Titans [Netflix]**

The juvenile superheroes (including Dick Grayson/Robin) get a gritty makeover in this 11-episode DC Universe series that plays in 1080p. Superb 5.1 soundmixes will have you cranking your AVR. *HCC #296*

★★★★★

**The Umbrella Academy [Netflix]**

A delicious mix of weirdness and invention, this comic book adaptation is a change of pace from the usual Marvel/DC shenanigans. Excellent 4K HDR presentation. *HCC #297*

★★★★★

**Triple Frontier [Netflix]**

Oscar Isaac and Ben Affleck headline this tense and intentionally grim big-budget action thriller from the writer of *Zero Dark Thirty* and *The Hurt Locker*. Streams in 4K HDR/ Atmos. *HCC #298*

★★★★★

02


M&K Sound IW150 5.1 → £8,550 ★★★★★

The in-wall IW150 speakers offer the transparency and detail of a professional studio monitor in an enclosure that can vanish. This array adds driver-matched on-wall tripole surrounds and M&K's fearless X12 sub. The result is outstanding. *HCC #289*

03


Wharfedale DX-2 → £450 ★★★★★

The asking price of this 5.1 system will tell you it doesn't offer the last word in surround sound fidelity, but Wharfedale's package is compact, well made and faultlessly delivers on its home-cinema-on-a-budget promise. *HCC #283*

04


B&W 600 Series 5.1

→ £1,850 ★★★★★

Continuum drivers replace Kevlar in B&W's entry-level speaker range, delivering a sound that's precise, transparent and highly entertaining. *HCC #295*

05


KEF Q Series 5.1.2

→ £3,300 ★★★★★

KEF's revamped Q Series now offers Atmos modules for an up-to-the-minute sonic experience. Big, bold-looking speakers. Robust, immersive audio. *HCC #280*

06


Q Acoustics 3010i 5.1

→ £900 ★★★★★

Smaller in stature (and scale) than the 3050i pack, but easier to accommodate. A brilliant performer for the price – balanced, detailed and musical. *HCC #296*

07


Fyne Audio F300 5.1

→ £1,000 ★★★★★

Start-up Scot brand hits the ground running with a floorstanding pack of great value. Plenty of LF heft, detail delivery and soundstage scale. *HCC #297*

08


Elipson Prestige Facet 7.2.4

→ £3,500 ★★★★★

13 cabinets come together to create a great-value and immersive Dolby Atmos array. Rich in fidelity and neutrality; modern styling is another plus point. *HCC #291*

09


Q Acoustics 3050i

→ £1,350 ★★★★★

This update on the previous 3000 series makes subtle performance and styling improvements. The result is an excellent, well-priced, stylish package. *HCC #287*

10


Monitor Audio Silver 500 5.1

→ £3,650 ★★★★★

The new Silver range offers a potent EQ-able sub, sweet design, dipole surrounds and largescale, nuanced sonics. Atmos upfiring models would be nice, though. *HCC #282*

11


GoldenEar Triton Two+ 5.2

→ £6,000 ★★★★★

Floorstanders with in-built active subwoofers provide tight, dynamic bass and simplify installation, while ribbon tweeters ensure a sweet top-end. *HCC #297*

12


Monitor Audio MASS 5.1

→ £600 ★★★★★

Second-gen redesign of MA's sub/sat system refines the styling and colour options, while retaining the compact dimensions and all-round sound quality. *HCC #298*

13


Klipsch Reference 5.1.2

→ £2,000 ★★★★★

Not the sleekest-looking speakers but Klipsch's array sounds big, bold and cohesive and is easy to drive. Solid subwoofer, too. *HCC #293*

14


Jamo S Series 5.1.2

→ £1,120 ★★★★★

An affordable package with drop-dead gorgeous styling, neat Atmos module integration and involving sonics – but the 8in sub isn't a beast. *HCC #290*

15


Focal Sib Evo Dolby Atmos 5.1.2

→ £1,200 ★★★★★

Enjoyable-sounding and well-priced sub/sat system with Atmos upfiring in front L/R enclosures. Not the smallest 'satellite' speakers around. *HCC #276*

TOP 10 Projectors
01

Sony VPL-VW570ES → £8,000 ★★★★★

This native 4K projector offers a top-flight UHD performance, and adds a dynamic iris and boosted luminance over the step-down 270ES. Still not the brightest model around, but in a dedicated cinema it shines. *HCC #295*

02

Optoma UHD51 → £1,500 ★★★★★

Optoma's mid-priced 4K DLP model adds 3D playback (at 1080p) to its home cinema repertoire, making it an obvious upgrade for stereoscopy fans. Sharp, colour-rich and dynamic visuals. *HCC #287*

03

NEW ENTRY
JVC DLA-N7B

→ £8,500 ★★★★★

JVC revamps its home cinema projector line with native 4K optics, new HDR tone mapping skills and revised styling. Quiet in operation and an excellent 4K/HD/3D performer. *HCC #298*

04

SIM2 Nero 4S

→ £30,000 ★★★★★

High-price PJ for high-end largescreen installs. Class-leading brightness and sharpness results in exemplary 4K HDR projection. Precise setup controls and wide-ranging calibration tools. *HCC #296*

05

Sony VPL-VW270ES

→ £5,000 ★★★★★

Sony has refined the performance of its entry-level 4K PJ, improving contrast and HDR delivery, ensuring cinematic thrills. Bonus features include motorised controls and 3D playback. *HCC #293*

06

Epson EH-TW7400

→ £2,200 ★★★★★

HLG playback is missing from the spec sheet but otherwise this 4K upscaling LCD PJ hits all the right notes. Setup tools include lens memory presets; images are bright, colourful and contrast-rich. *HCC #293*

07

BenQ TK800

→ £1,200 ★★★★★

A lot of enjoyable performance crammed into a compact package. Offers 4K HDR playback, plus 3D, with only a limited black level and occasionally pushed colours counting against. *HCC #288*

08

Sony VPL-VW870ES

→ £25,000 ★★★★★

Native 4K beamer with laser light source aimed at largescreen theatres. Superb images from both SDR and HDR sources (plus 3D support), but there are strong rivals both above and below the price. *HCC #297*

09

Vivitek HK2288

→ £2,500 ★★★★★

The Taiwanese brand returns to the UK with a 4K DLP PJ that balances impressive HDR brightness with stable images. Excellent remote control and decent zoom and throw options. *HCC #285*

10

Acer VL7860

→ £3,500 ★★★★★

Laser 4K DLP projector that misses out on the contrast performance of some models, but undercuts them in terms of pricing. Use the Silent mode for whisper-quiet operation. *HCC #284*

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TOP 10 Blu-ray players

01


Pioneer UDP-LX800 → £2,200 ★★★★★

A phenomenal universal disc spinner, which adds audiophile-grade music playback to its 4K BD talents. Includes Dolby Vision support, with HDR10+ promised via future firmware. Build quality is staggering. *HCC #293*

02


Panasonic DP-UB9000 → £850 ★★★★★

Supporting both HDR10+ and Dolby Vision, and incorporating useful image adjustments, this premium player is at the leading edge of UHD BD playback. The astonishing construction and provision of VOD apps heighten its appeal. *HCC #292*

03


Pioneer UDP-LX500

→ £1,000 ★★★★★

Lacks the audiophile features (including XLR output) of the UDP-LX800 but still sounds sublime with CD and hi-res audio. Dolby Vision playback, with HDR10+ due via firmware. No VOD apps. *HCC #296*

04


Sony UBP-X700

→ £250 ★★★★★

A compact player updated to Dolby Vision support, the UBP-X700 has a nondescript design, no analogue outs and a stubby remote. But it plays great, and offers SACD support. *HCC #284*

05


Panasonic DP-UB420

→ £250 ★★★★★

Hi-res file support and HDR10+ compatibility make up for this deck's lightweight build and basic streaming app provision. Plenty of user tweaks on offer and a tempting price. *HCC #291*

06


Panasonic DP-UB820

→ £400 ★★★★★

Panasonic's mid-ranger delivers on both the HDR10+ and DV fronts, and introduces multichannel analogue outputs. As with the UB420, the VOD portal could do with a style makeover. *HCC #295*

07


Sony UBP-X800

→ £270 ★★★★★

Sony embraces UHD Blu-ray with a full-width, sturdy design that'll also spin DVD-A and SACD platters. A great all-rounder, but no current Dolby Vision support or word on an update. *HCC #274*

08


Cambridge Audio CXUHD

→ £800 ★★★★★

The lack of analogue outputs is a surprise considering CA's heritage, but this universal (and DV-capable) deck sounds sweet over its digital outs. As with Oppo's UDP-203, a MediaTek SoC is used. *HCC #279*

09


Panasonic DMP-UB300

→ £130 ★★★★★

Great 4K imagery from this bargain 2017-era deck, but you might prefer to up your budget – no split HDMI, optical/coaxial or Wi-Fi connections here. Half-size design for an easy install. *HCC #272*

10


Xbox One X

→ £400 ★★★★★

Microsoft's superior console dazzles with its native 4K HDR gaming chops – and doubles as a UHD disc player. If you're short of shelf space and like mixing movies with joypad fun, it's a decent option. *HCC #280*

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Photo courtesy of UK Home Cinemas

TOP 10 AV Receivers/AV Processors

01

**Denon AVR-X4500H** → £1,500 ★★★★★

Denon's top-tier nine-channel AVR is due an IMAX Enhanced update shortly, topping off an already extensive, user-friendly feature set. Movie playback is dynamic and detailed, and two-channel music sounds sweet too. Superb. *HCC #293*

02

**Arcam AVR850** → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos support with talented Dirac Live Room EQ for an excellent performance. Lacks a few feature frills, but 11-channel pre-outs allow full-fat setups. *HCC #257*

03

**Denon AVC-X8500H** → £3,300 ★★★★★

For those who want to go even bigger with their Atmos/DTS:X system, this flagship provides 13 channels of power. Setup can be complex, and there's no FM tuner, but otherwise this is first-class. *HCC #285*

04

**Yamaha CX-A5200** → £2,600 ★★★★★

11-channel processor with MusicCast integration, XLR hookup and a trio of HDMI outs. Atmos and DTS:X support is bolstered by impressive Surround:AI DSP. Flexible and enjoyable. *HCC #292*

05

**Marantz AV8805** → £3,600 ★★★★★

The most affordable 13-channel processor around, the AV8805 combines lean looks, setup flexibility and a musical, detailed sound performance. Uses Audyssey MultEQ XT32 calibration. *HCC #288*

06

**Marantz NR1609** → £650 ★★★★★

AirPlay 2 and a phono stage input for vinyl junkies are among the new specs of Marantz's 7-channel slimline model. An assured performer with film and music; great usability and styling. *HCC #295*

07

**NAD Masters Series M17 V2** → £5,500 ★★★★★

Dirac Live replaces Audyssey EQ in this revamped high-end processor; 4K HDR passthrough, Atmos and DTS:X decoding, and BluOS music streaming also join the party. *HCC #293*

08

**Pioneer VSX-933** → £470 ★★★★★

An affordable seven-channel AVR where copious music streaming options are joined by a punchy, upbeat home cinema performance. Improved remote and menus, but only one HDMI output. *HCC #292*

09

**IOTAVX AVXP1** → £1,050 ★★★★★

Brit brand power amplifier with plenty of Class AB grunt (rated at 7 x 110W into 8 ohms) and a rugged build quality – one to audition if your cinema setup is in need of more channels. *HCC #293*

10

**Yamaha RX-A3080** → £2,000 ★★★★★

Yamaha's flagship receiver is still 'only' a nine-channel model while rivals add more power. But this is feature-packed and a dynamic, dramatic performer. DSP modes add appeal. *HCC #298*

TOP 5 Bonus features

**Dragonwyck (alternate presentation)**

Use your player's 'Angle' button to switch between two different encodes of this 1946 Vincent Price romp – an older, more filmic HD master, and a cleaner-looking 4K restoration. *HCC #298*

★★★★★

**Maelstrom: The Odyssey of Waterworld**

Get superb insight into the fraught production of Kevin Costner's post-apocalyptic epic with this new feature-length *Making of...* documentary on Arrow's BD release. *HCC #295*

★★★★★

**The Horrors of War**

Accompanying the BD of WWII action-horror *Overlord* is this 50-minute documentary – split into six sections – which digs into nice detail around the film's production, themes and key sequences. *HCC #296*

★★★★★

**Widows Unmasked: A Chicago Story**

How does a 1980s ITV drama become a 2019 Hollywood film directed by Oscar-winner Steve McQueen? This detailed 50-minute *Making of...* doc has the answers. *HCC #297*

★★★★★

**Learned Behavior: Special Features at Work**

Fascinating 60-min roundtable chat that crops up on the *Kin* Blu-ray, covering the concept of extra features themselves. *Kin*'s co-directors are joined by Kevin Smith and others. *HCC #296*

★★★★★

TOP 10 Subwoofers

01


REL No.25 → £6,500 ★★★★★

REL celebrates its 25th anniversary in style with this 15in/1,000W premium concoction that exhibits exhilarating speed and nuance down to serious depths. Big, but beautiful. HCC #271



02


Bowers & Wilkins DB1D

→ £3,750 ★★★★★

This sequel to the DB1 moves EQ to an app and changes driver/amp design. Beautifully controlled performance with depth and detail. Gorgeous bodywork. HCC #277



03


SVS SB16-Ultra

→ £2,500 ★★★★★

A 16in driver and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low but remains tight and fast. App-assisted EQ and operation. HCC #270

04


Fyne Audio F3-12

→ £600 ★★★★★

12in driver in a ported enclosure at a great price. Basic setup and styling, but it maintains control and nuance while dropping deep. HCC #297

05



NEW ENTRY

SVS SB-3000

→ £1,275 ★★★★★

A new 13in driver and 800W amp combi is added to SVS's app-based EQ/control. The result is an excellent value sealed sub that hits deep and hard. HCC #298

06


REL HT/1508 Predator

→ £1,600 ★★★★★

The flagship of REL's Serie HT lineup uses a 15in woofer and claimed 800W power plant to hammer home its home-cinema-centric ethos. Enormous fun. HCC #296

07


REL HT/1205

→ £700 ★★★★★

A larger (12in) driver and punchier amp than on the HT/1003 increases LFE enjoyment – but still at a bargain price. Lacks a bit of subtlety though. HCC #290

08


Eclipse TD725SWMK2

→ £5,000 ★★★★★

Eclipse aims for speed and accuracy with this flagship. Dual opposed 10in woofers perform as advertised – bass is astonishingly precise and percussive. HCC #297

09


REL HT/1003

→ £500 ★★★★★

REL targets film fans with a 10in sub that drops its usual simultaneous high/low-level input to hit a new price point. Power and speed are its strengths. HCC #286

10


GoldenEar SuperSub X

→ £1,450 ★★★★★

Four drivers squeezed into a relatively compact design and given plenty of push from a 1,400W amp. Standout traits are impact and depth. HCC #272

TOP 5 Console games


Red Dead Redemption II

Rockstar Games' years-in-the-making Wild West action/puzzler prequel offers a mammoth open-world gaming experience with excellent attention to detail. Fantastic five-star fun, despite muted visuals. HCC #293

★★★★★


Resident Evil 2

Capcom remakes the legendary horror survival game for current-gen PS and Xbox consoles, retaining the original's charms but tweaking gameplay and delivering a first-rate AV experience. HCC #296

★★★★★


Tom Clancy's The Division 2

Duck-and-cover shooter with both solo and multiplayer online modes that's an AV treat (particularly in 4K on Xbox One). Lengthy missions limit casual appeal, though. HCC #298

★★★★★


Super Smash Bros. Ultimate

Boasting a host of characters (including some retro surprises), eight-player multiplayer, smooth 60fps visuals and frantic action, this Nintendo Switch beat-'em up is a hoot. HCC #295

★★★★★


Shadow of the Tomb Raider

Lara's back and she means business in this lengthy, stealth-tastic puzzle adventure from Square Enix. The best *Tomb Raider* title yet, and gorgeous to look at. HCC #292

★★★★★

TOP 10 Accessories

01



Amazon Fire TV Stick 4K → £50 ★★★★★

This upgraded streaming dongle brings 4K HDR (HDR10+; Dolby Vision) and Dolby Atmos to your movie den. Voice control improves search, while a new quad-core processor yields quick load times and stream optimisation. A little stunner. *HCC #295*

02



Bluesound Node 2i → £500 ★★★★★

Hi-res preamp/DAC to hook up to a stereo amp/AVR/active speakers. Integrates with the BluOS app for a wide range of streaming services and home media playback. Compact and an excellent performer. *HCC #296*

03



Devo Magic 2 (Home Kit)

→ £270 ★★★★★

This next-gen networking system (featuring a trio of plug adapters) combines mesh Wi-Fi with the latest (and fastest) Powerline tech. Impressive in use, and a potential boon to streamers. *HCC #298*

04



Amazon Echo Input

→ £35 ★★★★★

No speaker here – just a disc-shaped Alexa device that links to your receiver via 3.5mm – or Bluetooth – and packs four far-field microphones to detect your voice commands. *HCC #296*

05



Yamaha WX-AD10

→ £150 ★★★★★

Simple to use, unobtrusive add-on that brings MusicCast multiroom/hi-res streaming to legacy AV gear via 3.5mm/ phono connections. Not a bad price – only available in grey, unfortunately. *HCC #274*

06



Roku Streaming Stick+

→ £70 ★★★★★

If a simple life is your aim, this content-rich, 4K/ HDR-capable stick from the streaming specialist is your friend. Idiot-proof interface and control. Good price. *HCC #282*

07



Edifier S350DB

→ £250 ★★★★★

Active 2.1 speaker system that's a fine alternative to a soundbar, with good bass integration and effects separation. No HDMI hookup and retro styling, but easy to setup and use. *HCC #291*

08



Apple TV 4K

→ £180 (32GB) ★★★★★

With Apple's iTunes movie store offering 4K HDR (Dolby Vision) movies at the same price as Full HD downloads, this compact media player (irritating handset aside) is sure to tempt. *HCC #284*

09



Synology DS119j

→ £95 ★★★★★

Entry-level single-bay NAS (you'll need to add your own HDD) that benefits from Synology's impressive DSM operating system. Quick to get up and running, versatile and smart-looking. *HCC #292*

10



Amazon Echo Sub

→ £120 ★★★★★

This nicely styled bass bin to supplement Amazon's Echo speakers adds notable punch to streamed music and makes a 2.1 Dot system good value. Lacks subtlety and is overbearing with speech radio, though. *HCC #293*

TOP 5 Blu-ray/DVD boxsets



William Castle at Columbia: Volume One

Four gimmick-filled spine-tinglers (including 1960's part-anaglyph 3D *13 Ghosts*) are joined by a typically brilliant selection of extras in Indicator's deluxe package. *HCC #294*

★★★★★



The Ring Collection

Ring, *Ring 2* and *Ring 0* – plus the oft-forgotten other sequel *Rasen* (aka *Spiral*) – get a Blu-ray boxset that will appeal to J-Horror fans. *Ring*'s new restoration is streets ahead of previous discs. *HCC #297*

★★★★★



Dr Who: The Collection – Season 19

The BBC's BD outing for Peter Davison's debut Time Lord season benefits from the show's move (in parts) from video to 16mm film capture. A TARDIS full of extras, too. *HCC #295*

★★★★★



Batman: The Complete Animated Series

All 109 episodes of Fox's groundbreaking 'toon have been meticulously restored for this BD boxset. Among the copious extras is a new 98-minute *Making of...* doc. *HCC #293*

★★★★★



Once Upon a Time in China Trilogy

Jet Li stars (as folk hero Wong Fei-Hung) in this trio of 1990s martial arts flicks, bundled here with fourth movie *...in America and China*. Extras include a trio of commentary tracks. *HCC #295*

★★★★★

TOP 10 Soundbars & Soundbases



01 Samsung HW-N950 → £1,500 ★★★★★

The latest and greatest soundbar system to arrive from Samsung's US-based Audio Lab, the HDMI-equipped N950 crafts a dynamic, detailed and immersive 7.1.4 Atmos/DTS:X soundfield without cluttering your room. *HCC #290*



02 Canton DM55 → £320 ★★★★★

Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doddle to use. Bluetooth built-in. *HCC #260*



03 Yamaha YSP-5600SW → £1,900 ★★★★★

With its 46 drivers (including upfiring) this premium 'bar delivers precisely steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*



04 Denon HEOS Bar → £570 ★★★★★

Multiroom-ready and app-controllable, this premium single-enclosure model offers powerful, detailed and warm sonics in spades. Can be expanded into a 5.1 system with extra HEOS hardware. *HCC #287*



05 Q Acoustics M3 → £300 ★★★★★

A 4in x 6in woofer is tucked away in the M3's eye-catching angular chassis, ensuring this well-priced soundbar has a full-range performance. Simple to use. Bluetooth streaming. *HCC #271*



NEW ENTRY

06 Harman Kardon Enchant 800 → £620 ★★★★★

The baby 'bar in the Enchant range lacks secondary HDMI inputs but presents a well-organised soundstage with effects localisation and dynamic heft. Chromecast is integrated, and the design is gorgeous. *HCC #298*



07 JBL Bar Studio → £150 ★★★★★

No subwoofer here, just a fairly compact stereo 'bar that offers a useful soundstage-widening 'Surround' mode, HDMI ARC connectivity, and a decent performance for the price. *HCC #284*



08 Sony HT-ZF9 → £650 ★★★★★

This 3.1-channel soundbar handles Dolby Atmos streams and promises enveloping sonics via DSP trickery. The result isn't noticeable overhead audio, but a wide, high and exciting performance. *HCC #289*



09 Q Acoustics M2 → £300 ★★★★★

Easily accommodated in/on AV furniture, and packing HDMI ARC for a simple hookup, this BMR-driver/built-in woofer soundbase impresses with its energetic delivery and price. *HCC #279*



10 Wharfedale Vista 200S → £150 ★★★★★

HDMI ARC makes this budget soundbar/sub easy to install, and its audio presentation delivers good stereo imaging and rich bass. Better with movies than music, and not the grandest of soundstages. *HCC #295*

TOP 5 Back-catalogue Blu-rays



Wheels on Meals

Genre legends Jackie Chan, Yuen Biao and Sammo Hung bring the martial arts mayhem to this 1984 action comedy. Eureka Entertainment's BD looks superb, and includes interviews and outtakes. *HCC #298*

★★★★★



Pet Sematary [Ultra HD Blu-ray]

The 1989 adaptation of Stephen King's horror novel receives a 4K outing while a 2019 version plays at cinemas. A new restoration yields a superior, filmic image. *HCC #298*

★★★★★



World on a Wire: Limited Ed.

Second Sight brings this mind-messing two-part 1973 sci-fi mini series to BD, with an encode that handles the 16mm photography well, and more extras than the US Criterion Collection version. *HCC #296*

★★★★★



Schindler's List: 25th Anniversary Edition [UHD Blu-ray]

Spielberg's monochrome classic gets more out of its director-approved HDR grade than you might expect – and the film remains unmissable. *HCC #296*

★★★★★



Detour

An extensive 4K restoration (detailed in one of the disc's extras) yields a gob-smackingly gorgeous 1080p image on this Criterion Collection release. The movie itself is a low-budget 1945 film noir classic. *HCC #297*

★★★★★

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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content

★★★★★



Humax FVP-5000T

Revamped menus, faster operation and tweaks to its triple-tuner engine make this the most advanced Freeview Play PVR around – and it doubles admirably as a DLNA player/media jukebox. 500GB/1TB/2TB

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



Manhattan T2-R, £120

The 500GB HDD and twin-tuner spec of this Freeview HD PVR is basic, but Manhattan's new hardware design, user interface (and the price tag) are appealing. Easy to use.

★★★★★

TOP 5 Headphones



JBL Tune600BTNC, £85

A commendable budget option from JBL, with closed-back, comfortable ear-cups, reasonably effective noise-cancelling, Bluetooth hookup, and a presentation with a good sense of scale and impact

★★★★★



Nuraphones, £350

Unusual over-ear/in-ear hybrid cans that measure the acoustic response of your inner ear to fine-tune performance. It's a highly impressive trick, but the design can make these a bit uncomfortable to wear

★★★★★



1More MK802, £150

Ignore the bling-tastic blue or red finishes and focus on the assured sound performance from these well-priced closed-back cans. Features include wireless Bluetooth and app control (with burn-in mode). Great value

★★★★★



Bowers & Wilkins PX, £330

B&W adds noise-cancelling to the general spec of its previous P7 wireless cans, a welcome update for those seeking uninterrupted listening. Offers a neutral, balanced sound suited to both movies and music

★★★★★



Sony WH-1000XM3, £330

Third-gen noise-cancelling wired/wireless 'phones are deliciously comfortable and deliver an intimate performance with strong spatial imaging and nuanced bass. Compatible with LDAC source gear

★★★★★

TOP 5 Wireless speakers



DALI Katch, £330

Portable Bluetooth speaker (aptX-capable) with stereo driver array and gorgeous design. Excellent blend of low-end punch and mid-range/treble detail. Rechargeable battery life is rated at 24 hours.

★★★★★



Bluesound Pulse Mini 2i, £500

Hi-res-capable wireless speaker that proves equally impressive when used as a TV soundbar alternative. A largescale stereo sound with mid-range muscle and HF sparkle.

★★★★★



Dynaudio Music 7, £875

Top-of-the-range multiroom option from Dynaudio, this sizable speaker creates a full-range, detailed soundstage. Music App offers useful adjustments and EQ modes. Inputs include HDMI (ARC)

★★★★★



Airpulse Audio A200, £800

Monitor-style active speakers offering physical and wireless hookups, a premium build and a sweet yet weighty sound delivered by ribbon tweeters and 5.5in midbass drivers

★★★★★



Libratone Zipp 2, £280

Well-priced do-it-all portable speaker adds voice interaction, Wi-Fi streaming, Spotify Connect, 3.5mm hookup and auto Room EQ to its Bluetooth spec. Solid sound quality, albeit monophonic.

★★★★★

HOME CINEMA Choice

→ IN THE NEXT ISSUE

HDR format war HDR10+ and Dolby Vision – the TVs, the players, the discs

Batman begins again Tim Burton's classic hits 4K
Munich 2019 New kit and the best demos from the high-end audio expo

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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER



AV Avenger

Dolby Atmos audio takes the home cinema experience to literally another level, but what exactly should a system entail? **Steve May** experiments

GIVEN HOW UBIQUITOUS Dolby Atmos has become, it's surprising how little choice we have when it comes to buying official Dolby Atmos-enabled speakers.

Loudspeaker brands are ten a penny, but buying Atmos remains a choice between a number of higher-end soundbars, few of which have a consensus on how to implement Dolby's immersive sound format (Sony's HT-ZF9 doesn't sound anything like Samsung's HW-N850, for example), and premium systems that assume your pockets are deep and your viewing room cavernous, with Focal's Sib Evo sub/sat 5.1.2 system being a notable exception.

But what are the options if you simply want to upgrade an existing 5.1 surround system? Can you really create an Atmos-pheric experience with unsanctioned Dolby Atmos speakers?

When I've quizzed Dolby about the disparate nature of Atmos kit (you'll find the logo on everything from smartphones to headphones), they explain Atmos is 'an experience'. Sure there are guidelines, but Atmos immersion takes many forms – and all are valid.

A preference for one implementation or another is just that, a preference. Dolby itself refers to Dolby Atmos in a Dolby Cinema as 'studio grade'; this helps differentiate it from all the other flavours available.

I take this as an invitation to experiment. **Home cinema has always involved a degree of compromise and fudge.** That's been the case since the earliest days of Pro-Logic. Nothing much has changed.

One way to add Dolby Atmos height channels to an existing surround system is, obviously, to install in-ceiling speakers. This involves a fair amount of structural work (ugh), but the results can be unobtrusive and effective. However, ceiling height is

crucial. Too low (less than 2.5m) and those overheads can become extremely directional, and ultimately distracting.

Dedicated Dolby upfiring speaker modules are a more appealing solution, but they're primarily designed to 'top-off' matching forward-facing enclosures, which you probably won't own.

One final trick is to simply emulate the sound dispersion pattern of a proper Dolby Atmos upfiring. Q Acoustics' 7000i is a popular 5.1 sub/sat speaker system (some of you might already be using it) and the cute thing about the 7000i satellite enclosures is that they have a ball joint which allows them to be angled upwards. So I got a system in for a play.

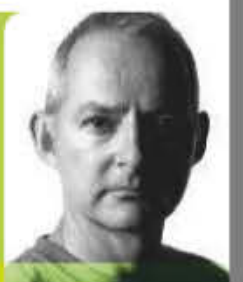
Adapting a standard surround speaker configuration, I added two additional 7000LRi satellites, on 7000ST speaker stands, designating them Atmos height channels. This pair were positioned reasonably close to my sofa, tilted as far back as their stand allows, in order to attempt a bounce (off the ceiling) into the listening area.

This unofficial Atmos layout worked well. The Dolby demo clip *Amaze* features a 360-degree bird fly-around, miscellaneous panned jungle effects and finally an overhead tropical rainstorm. My combo of standard rears and angled heights produced a timbre-matched soundstage that felt immersive. The rainfall engulfed my listening area as it should – as did the disembodied cries and vehicle fly-over of *Mad Max: Fury Road*'s bravura opening.

I'd go so far as to say this compromise Atmos produced an immersive listening experience to rival the aforementioned dedicated Focal Sib Evo system. When it comes to 3D audio, it seems a little rule bending can go a long way ■

How have you assembled your Dolby Atmos system? Let us know: email letters@homecinemachoice.com

Steve May has watched Dolby's *Amaze* Atmos trailer/demo so many times that he's no longer totally amazed by it



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